

Office of the Superintendent of Schools
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

November 13, 2012

MEMORANDUM

To: Members of the Board of Education

From: Joshua P. Starr, Superintendent of Schools

Subject: Approval of Pilot Courses

The purpose of this memorandum is to request approval to develop pilot courses and to designate as restricted those courses that have completed the pilot process successfully. Pilot courses are submitted to the Board of Education as required by Board of Education Policy IFA, *Curriculum*, approved February 13, 2001, and Montgomery County Public Schools (MCPS) Regulation, IFA-RA, *Curriculum*. The policy requires that initial information regarding proposed curriculum development or significant revisions be presented to the Board of Education for approval. The Office of Curriculum and Instructional Programs (OCIP) continues to implement a process for pilot courses and is proposing 11 new high school pilot courses. OCIP also recommends four courses to become restricted to specific high schools. Attached is a summary of proposed pilot courses and the pilot courses that successfully have completed the pilot process. Based on recommendations of school staff members, three pilot courses were discontinued in June 2012.

Proposed pilot courses and pilot courses that successfully have completed the pilot process and are recommended to be approved as restricted are submitted to the Board of Education for review and approval. These pilot courses are developed by local schools, central services staff members, or external organizations.

Separate from the pilot course process, OCIP continues to review secondary courses offered in MCPS. During the 2012–2013 scheduling season, 17 high school courses were removed from the district's offerings.

The courses recommended to be piloted reflect the dedication, professionalism, and responsiveness of committed teachers, administrators, and central services staff members to satisfy a wide range of student needs and interests. In many cases, teachers collaborated with colleagues in various MCPS schools and central services staff members. Writers demonstrated careful consideration of course outcomes, rigor, and relevance.

The following resolution is included for your consideration.

WHEREAS, On February 13, 2001, the Montgomery County Board of Education adopted Policy IFA, *Curriculum*, governing all curriculum development and implementation; and

WHEREAS, Montgomery County Public Schools established procedures under Regulation IFA-RA, *Curriculum*, to allow school staff to develop and pilot noncore curriculum courses through the Office of Curriculum and Instructional Programs; and

WHEREAS, Montgomery County Public Schools established procedures under Regulation IFA-RA, *Curriculum*, to allow externally developed curriculum and instructional programs to be used in place of Montgomery County Public Schools curriculum after review and approval, using the process for noncore curriculum development; and

WHEREAS, The proposed courses have met all of the requirements established in the procedures; and

WHEREAS, These proposed courses support and extend high school signature, academy, career and technology, and elective programs; now therefore be it

Resolved, That the Montgomery County Board of Education approve the following courses as pilot courses or restricted courses in accordance with the procedures established in Regulation IFA-RA, *Curriculum*.

At the table for today's discussion are Dr. Erick J. Lang, associate superintendent, Office of Curriculum and Instructional Programs; Ms. Betsy Brown, director, Department of Curriculum and Instruction; and Mr. Martin M. Creel, director, Department of Enriched and Innovative Programs.

JPS:smw

Attachment

PROPOSED EXTERNALLY DEVELOPED PILOT COURSES
November 13, 2012

Externally developed curriculum or program is developed by an outside organization. Its use in Montgomery County Public Schools (MCPS) may significantly alter, add to, or replace MCPS curriculum and may include Advanced Placement (AP), International Baccalaureate (IB), published programs, curriculum developed by private and/or nonprofit organizations, online courses, or distance learning. The following externally developed courses are proposed for pilot development. Successful pilot courses will be submitted for Board of Education review and approval as active or restricted courses.

IB Approaches to Learning A/B/C

Proposed by: Watkins Mill and Rockville high schools

Number of credits and course duration: 1.5 credits (3 semesters)

Grade level: 11–12

Instructional level: Advanced

Prerequisite: None

Purpose/Rationale: This course prepares students for success in both IB Diploma Programme courses and career-related courses (i.e., Project Lead the Way). IB Approaches to Learning is a requirement for students to complete the IB Career Certificate. The course emphasizes skills development for workplace skills that are transferable and applicable to a wide range of careers. Students develop personal qualities and values outlined in the IB learner profile. The course is designed to develop not only skills, but also dispositions.

Course description: IB Approaches to Learning focuses on four areas of learning: thinking (ethical thinking, critical thinking, creative thinking, problem solving, and lateral thinking), intercultural understanding, communication, and personal development. Students complete a culminating project to analyze a problem and take action to resolve the problem.

IB Dance 1 A/B

Proposed by: Albert Einstein High School

Number of credits and course duration: 1 credit (2 semesters)

Grade level: 11–12

Instructional level: Advanced

Prerequisite: None

Purpose/Rationale: IB Dance 1 is designed to allow additional students to participate in an IB Programme course at Albert Einstein High School. Students gain a global perspective as they research, analyze, and perform dances from a variety of cultures.

Course description: Consistent with the educational philosophy of the IB, the Diploma Programme dance curriculum embraces a variety of dance traditions and dance cultures—past, present, and looking toward the future. Performance, creative, and analytical skills are developed and valued by crafting essays as well as creating and performing dances. Students investigate dance through research projects. Students may specialize in any style of dance performance but must experience more than one style from more than one culture and/or tradition.

IB Dance 2 A/B

Proposed by: Albert Einstein High School

Number of credits and course duration: 1 credit (2 semesters)

Grade level: 11–12

Instructional level: Advanced

Prerequisite: IB Dance 1 A/B

Purpose/Rationale: This elective course provides expanded opportunity for students at the school to participate in higher level IB Diploma Programme courses.

Course description: Students discuss how artistic, aesthetic, and cultural education influence dance choreography. In addition to performing dances and presenting projects, students lead in-depth comparative discussions about dances from diverse cultures and/or traditions.

IB Design Technology A/B

Proposed by: Springbrook High School

Number of credits and course duration: 1 credit (2 semesters)

Grade level: 11–12

Instructional level: Advanced

Prerequisite: None

Purpose/Rationale: This elective course will allow additional students to participate in an IB Programme course at Springbrook High School. IB Design Technology develops internationally minded citizens whose enhanced understanding of the technological world will seek to improve the human condition. The design method includes all of the following: the careful collection of data from many sources; a deep understanding of the design context; both convergent and divergent reasoning; innovation in the suggestion of outcomes; and modeling skills (graphical and three-dimensional) in the representation of the technology. During the guided collection of relevant knowledge, students develop skills to apply to future technological problems.

Course description: IB Design Technology will support the development of a high level of technological literacy through critical thinking and design skills. The course focuses on the design, development, analysis, synthesis, and evaluation of problems and their solutions through practical activities. The creative tension between theory and practice informs design technology within the IB Diploma Programme experimental sciences.

IB Sports, Exercise, and Health Science A/B

Proposed by: John F. Kennedy High School

Number of credits and course duration: 1 credit (2 semesters)

Grade level: 11–12

Instructional level: Advanced

Prerequisite: None

Purpose/Rationale: This elective course will operate to allow additional students to participate in an IB Diploma Programme course at John F. Kennedy High School.

Course description: The IB Sports, Exercise, and Health Science course incorporates traditional disciplines of anatomy and physiology, biomechanics, psychology, and nutrition. This course includes practical (experimental) investigations in both laboratory and field settings. Students apply scientific principles and critically analyze human performance. Where relevant, the course addresses issues of international ethics in sports, health, and exercise.

PROPOSED ELECTIVE HIGH SCHOOL PILOT COURSES

The following courses are proposed for pilot development and will be submitted for Board of Education review and approval, if successful.

Foundations of Technology through Automotive Concepts

Proposed by: Automotive Trades Foundation

Number of credits and course duration: 1 credit (2 semesters)

Grade level: 9–12

Instructional level: On level

Prerequisite: None

Purpose/Rationale: Changes in the Code of Maryland Regulations (COMAR) governing technology education instructional programs reduced the number of courses that satisfy the technology education high school graduation requirement. This course is designed to meet the new COMAR requirements and expand student options in meeting the technology education graduation requirements. Foundations of Technology through Automotive Concepts is a rigorous course designed for students who want to learn the fundamentals of technology with specific application to the automotive environment. The course serves to engage students and encourage additional study in this career pathway.

Course description: In this course, concepts of technology, especially as they relate to the automotive industry, are presented through practical application. Students in teams apply concepts of technology to solve problems through innovative designs. The seven learning units are: 1) Manufacturing—The Industrial Revolution, 2) Mining and Infrastructure, 3) Driving Forces, 4) Core Automotive Systems, 5) Engineering Design Process, 6) Alternative Fuel/Energy, and 7) Major Industries.

Graphic Novel Literature

Proposed by: James Hubert Blake and Seneca Valley high schools

Number of credits and course duration: 0.5 (1 semester)

Grade level: 10–12

Instructional level: On level

Prerequisite: English 9

Purpose/Rationale: Because they resemble cartoons and comic books, graphic novels are sometimes underestimated and overlooked as works of literary merit. However, validation and support for the use of graphic novels in education is becoming more and more widespread, from the American Library Association to the National Council of Teachers of English. As graphic novels employ words and images as well as the unique combination of the two, studying graphic novels requires and supports the complex processes associated with multi-modal literacies. Additionally, the medium of graphic novels continues to entice otherwise reluctant readers. This unique combination of high interest and high complexity presents an opportunity to reach a wide range of students, from those who struggle with reading or English language acquisition to those who are highly able readers looking to engage with new and challenging material.

Course description: This course is designed to introduce students to graphic novels as literary texts suitable for critical analysis. Students encounter graphic novels of literary merit representing multiple genres such as memoir, fiction, historical narrative, and autobiography. Reading and discussion of texts focuses on both the content of the literature (the story) and the

craft (the use of formal conventions in both writing and art). Students use their knowledge of these formal conventions to engage in class discussions and respond to the text in informal and formal written critical analyses.

Introduction to Fashion Illustration A/B

Proposed by: James Hubert Blake High School

Number of credits and course duration: 1 credit (2 semesters)

Grade level: 11–12

Instructional level: On level

Prerequisite: None

Purpose/Rationale: This course is designed to expand opportunities for students to participate in a signature program class at James Hubert Blake High School. Introduction to Fashion Illustration meets a student demand for a class in illustrating, marketing, and promoting fashion. This course will operate to prepare students for college and career programs in fashion design.

Course description: Students investigate historically significant examples of fashion representing a variety of cultures in the creative illustrative production process. Students develop a context for understanding fashion as an aspect of human experience. Students draw the natural human figure and its interpretation into the stylized fashion figure. Following the elements of art and the principals of design, students develop their own creative approach to fashion illustration. Using the content standards and the performance indicators, students explore and experiment with personal interpretations of designs for various garments and accessories. Students also explore different materials and textiles used in the fashion industry.

Introduction to Fashion Production A/B

Proposed by: James Hubert Blake High School

Number of credits and course duration: 1 credit (2 semesters)

Grade level: 11–12

Instructional level: On level

Prerequisite: None

Purpose/Rationale: This course will operate to expand opportunities for students to participate in signature program classes at James Hubert Blake High School. Introduction to Fashion Production responds to student requests for a class that focuses on how to design and create clothes.

Course description: In this multimedia class, students explore the history, design, and creation of attire incorporating the elements of art and principals of design. Following the art content standards and performance indicators, students create their own fashions and costumes. Students study the history of fashion and costume design and interpret the work of established designers.

Vector Calculus

Proposed by: Poolesville High School

Grade level: 11–12

Instructional level: Advanced

Prerequisite: AP Calculus BC

Purpose/Rationale: Vector Calculus is offered in place of the traditional Multivariable Calculus course to challenge students in the Poolesville High School mathematics, science, and computer

magnet program. This course will help to prepare students for advanced college courses such as Math 340 or Real Analysis offered at the University of Maryland College Park.

Course description: Vector Calculus goes beyond the traditional 3-dimensional (3-D) study at this level to include the calculus of functions of several variables in the n-dimensional case using vector and matrix notation. Students study 3-D analytic geometry, differentiation, and integration of functions of many variables and the applications of these derivatives and integrals. Students are challenged to develop geometric intuitions beyond what is visualized. The course includes Green's, Gauss', and Stokes' Theorems and Maxwell's Equations.

Writing Mobile Android Apps A/B

Proposed by: Poolesville High School

Number of credits and course duration: 1.0 credit (2 semesters)

Grade level: 11–12

Instructional level: On level

Prerequisite: Computer Programming 2, Advanced Placement Computer Science

Purpose/Rationale: This course is designed to teach high school students how to create and market high-quality, helpful, and entertaining apps for Android devices.

Course description: Students learn how to write Android apps that perform efficiently and work well for the user. Students write at least one complete app that may be sold on the Android app market. Students use specialized Android software to write their apps, using the Eclipse programming environment to create, execute, debug, and test the app.

RECOMMENDED COURSES FOR APPROVAL IN HIGH SCHOOLS

The following courses successfully completed the pilot process after earlier Board of Education review and approval to pilot and are proposed for final approval as restricted courses.

Courses Offered Only at Authorized High Schools with Specialized Programs

Landscape Design and Management A/B (Course Codes 5656/5657)—Clarksburg, Damascus, and Sherwood high schools

METS ESOL A/B (Course Codes 1253/1254)—Bethesda-Chevy Chase, Montgomery Blair, Clarksburg, Albert Einstein, Gaithersburg, Richard Montgomery, Northwood, Quince Orchard, Rockville, Seneca Valley, Springbrook, Watkins Mill, and Wheaton high schools

Physical Rehabilitation Science A/B (Course Codes 3887/3888)—Clarksburg, John F. Kennedy, and Wheaton high schools

Plant Production A/B (Course Code 5523/5524)—Clarksburg, Damascus, and Sherwood high schools