

Legislative Analysis



REVISE MICHIGAN MERIT CURRICULUM MATHEMATICS REQUIREMENTS

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House Bill 4410 as passed by the House

Sponsor: Rep. Joel Sheltroun

Committee: Education

Second Analysis (9-11-09)

BRIEF SUMMARY: The bill would modify the four-year mathematics requirement in the Michigan high school merit standard curriculum. Under the bill, the curriculum would require a credit in algebra I, a credit in geometry (or the equivalent in a career and tech course), a credit in financial literacy or algebra II (or the equivalent in a career and tech course) or an integrated sequence of this course consisting of three credits, and a fourth math credit in a course such as trigonometry, statistics, pre-calculus, calculus, applied math, accounting, business math, algebra II (or the equivalent in a career and tech course), a re-take of algebra II, a financial literacy course, or a career and tech education course with math content approved by the board of the school district or charter school.

FISCAL IMPACT: The bill would have minimal if any fiscal impact on the state or school districts.

THE APPARENT PROBLEM:

In April 2006, the legislature enacted two laws—Public Acts 123 and 124—to establish the Michigan Merit Curriculum for high schools. See *BACKGROUND INFORMATION*. The curriculum, one of the most rigorous in the United States, began with students who entered Grade 8 in 2006. It was adopted in response to a growing concern that public high schools in Michigan were not preparing students adequately for the challenges they faced in the workplace, and that their lackluster skills burdened the state's overall economy.

The Michigan Merit Curriculum requires that while in high school a student complete four credits of math (including algebra I, geometry and algebra II, or an integrated sequence of this content, and also a fourth year of mathematics taken in the senior year of high school); four credits of English language arts; three credits of science (including biology, and chemistry or physics); three credits of social science (including U.S. history and geography, world history and geography, economics, and civics); one credit of physical education and health; and one credit in visual, performing, or applied arts.

The current law allows parents and guardians to request a personal curriculum for students after they have completed 2-1/2 credits of math--customarily in the middle of the junior year. However, the mathematics requirements pose a significant challenge to many high school students, and their teachers, early in their high school experience. For example, during the first three academic years of implementation, some schools have

reported algebra I failure rates of over 30 percent of all first-time students. County-wide rates are also high. According to research by Dr. Derrick R. Fries of Eastern Michigan University, 27 percent of all freshmen in the graduating class of 2011 failed algebra I in Oakland County, while 29 percent of those freshmen failed algebra I in Macomb County.

Dr. Fries notes that only five states require four credits of math for core graduation diploma certificates, and of those Michigan is the only state that also requires algebra II. In his statewide research project, Fries examined the expected impact of the Michigan Merit Curriculum for students having cumulative grade point averages (GPAs) of less than a 2.0 and special education students. He used both qualitative and quantitative research methods to review all 527 school districts in Michigan, and to make comparisons to standards in the 49 other states. In his paper, Fries notes that 15,000 Michigan students graduated with less than a 2.0 GPA in 2007 (that is, less than a C average). Of those, 750 attempted algebra II, and about 15 passed. Further, as of June 2008 (two years after the Michigan Merit Curriculum went into effect), an estimated 20,000 high school freshmen had failed algebra I. Given these and other data, Fries estimates that high school dropout rates for at-risk and special education students in June 2011 can be expected to increase to nearly 38,000 students (nearly double the customary 20,000 student dropouts).

Fries also reports that 93 percent of the school administrators who participated in his research study believe that the algebra II mathematics requirement will increase the number of high school dropouts, and that 83 percent of those administrators believe that algebra II is not a necessary graduation requirement for employability.

Legislation has been introduced to change Michigan's high school mathematics requirements, allowing a student to select from a wider range of math and math-related courses when fulfilling the four-year high school math graduation requirement.

THE CONTENT OF THE BILL:

House Bill 4410 (H-3), as amended on the House floor, would amend the Revised School Code to modify the four-year mathematics requirement in the Michigan high school merit standard curriculum.

Current Requirements

Under current law, a high school student, in order to graduate, must complete at least four credits in math that are aligned with subject area content expectations developed by the Michigan Department of Education and approved by the State Board of Education, including completion of at least the following:

- algebra I,
- geometry,
- and algebra II, or an integrated sequence of this course content that consists of three credits,

- and an additional mathematics credit, such as trigonometry, statistics, pre-calculus, calculus, applied math, accounting, business math, a re-take of algebra II, or a course in financial literacy.

Further, the law specifies that a student may complete algebra II over two years with a credit awarded for each year of study.

Proposed New Requirements

Under House Bill 4410 (Substitute H-3 as amended), a student's four-credit high school mathematics requirement would have to include completion of at least the following:

- one credit in algebra I;
- one credit in geometry earned in a geometry course or the integrated equivalent in a career and technical education course;
- and one credit earned in either a course in financial literacy or an algebra II course or the integrated equivalent in a career and technical education course, or an integrated sequence of this course content that consists of three credits; and
- an additional mathematics credit, such as trigonometry, statistics, pre-calculus, calculus, applied math, accounting, business math, algebra II, or the integrated equivalent in a career and technical education course, a re-take of algebra II, a course in financial literacy, or a career and technical education course with mathematics content approved by the board of the school district or board of directors of the public school academy.

As is currently the case, a student could complete algebra II over two years, earning a credit during each year.

Career and Technical Education

Now under the law, the board of a school district or charter school that operates a high school is required to ensure that each student is offered the curriculum necessary for the student to meet the high school curricular requirements described in the law. The law says that the board can do so by providing the credits specified by using alternative instructional delivery methods such as alternative course work, humanities course sequences, career and technical education, industrial technology courses, or vocational education, or by a combination of these. House Bill 4410 (H-3) as amended would retain this provision but modify it to include "career and technical education *programs or courses*."

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BACKGROUND INFORMATION:

The Cherry Commission. In June 2004 Governor Granholm created the Lieutenant Governor's Commission on Higher Education and Economic Growth, commonly known as the Cherry Commission after Lt. Governor John Cherry. The Governor charged the

Commission with making recommendations for improving the skills of the workforce, doubling the percentage of Michigan residents with postsecondary degrees or other credentials, and aligning the state's educational institutions with economic opportunities in the state.

The Commission's final report, issued in December 2004, included a recommendation that the State Board of Education develop a rigorous set of standards to ensure that high school graduates have the necessary skills to succeed either in postsecondary education or in the workplace. The Commission recommended that the State Board develop these standards with input from employers, labor organizations, institutions of higher education, and high school parents, students, and teachers.

Development of the Michigan Merit Standard. In the fall of 2005, Superintendent of Public Instruction Michael Flanagan assembled a research group to examine high school education standards in Michigan. The group was composed of people from a variety of backgrounds, including school administrators, special educators, and representatives from the Department of Education, and was headed by Dr. Jeremy Hughes, Assistant Superintendent of Public Instruction. The group met September through November and reviewed policies enacted in several other states, including Arkansas, Indiana, Massachusetts, Oregon, and Rhode Island.

After reviewing the research and the experiences of other states, and evaluating which policies might work best for Michigan, the work group developed a set of recommendations for statewide graduation requirements in Michigan similar to those enacted in other states. The work group made its recommendations to Superintendent Flanagan, who then presented them to the State Board of Education. The proposed "Michigan Merit Curriculum" was unanimously approved by the Board on December 15, 2005.

ARGUMENTS:

For:

Michigan's high school merit curriculum--now in place for three academic years--requires all students to complete four years of math, including algebra I, algebra II, and geometry, as well as a math course during the students' senior year. Failure rates for algebra I have been extremely high--reportedly near 30 percent in both Oakland and Macomb counties, for example. Given both those rates of failure and the need to re-take algebra I until proficiency is achieved, many educators question whether the four-year high school experience allows ample time to also complete (and if necessary re-take) geometry and algebra II. Those educators also fear that students who are unsuccessful in math class and therefore ineligible for high school graduation will simply drop out of high school. Indeed, a recent study by Dr. Derrick Fries of Eastern Michigan University estimates that Michigan's number of dropouts will nearly double--to 38,000 students--by June 2011.

This bill changes Michigan's high school mathematics requirements--the most rigorous in the United States--allowing a student to select from a wider range of math and math-

related courses when fulfilling the four-year high school math graduation requirement. After completing algebra I, a student could, for example, meet three years of math requirements by taking equivalent courses in career and technical courses.

This bill would give students more flexibility in their course-taking, revitalize many career and technical programs that are losing students statewide, and decrease the likelihood of high dropout rates.

Against:

The original version of House Bill 4410 offered a more comprehensive way to solve the problem posed by Michigan's high school mathematics requirements. As introduced, the original bill was significantly different from the current bill which has been changed following many conversations with education stakeholders statewide. In summary form, the original bill would have done the following:

- Established a new general diploma curriculum (in addition to the Michigan Merit Standard Curriculum).
- Allowed the State Superintendent of Public Instruction to identify up to 15 specialty high schools whose students would not have to meet either the Michigan Merit Standard curriculum or the general diploma curriculum but would instead study a curriculum that incorporated a significant reading and writing component, and used a specialized, innovative, and rigorous curriculum in such areas as performing arts, foreign language, extensive use of internships, or other learning innovations that conformed to pioneering innovations among other leading national or international high schools.
- Allowed a parent or legal guardian to request a personal curriculum that modified certain of the general diploma curriculum requirements (in the same way that a parent or legal guardian can now request a personal curriculum to modify the Michigan Merit Standard curriculum).

Response:

Although the original bill was more comprehensive in its approach to high school reform, the bill would have set-up a two-tiered high school curriculum into which students would have likely been tracked. The two-tier approach would have been less fair to students by introducing low expectations for some. Further, a two-tier system would be more costly to administer since it would require two sets of textbooks and related supplies, as well as two different kinds of assessments to test whether students met the curricular expectations set by the State Board of Education, and also the average yearly progress standards set by the federal No Child Left Behind Act.

POSITIONS:

The American Federation of Teachers - Michigan supports the bill. (8-19-09)

The Associated Builders and Contractors support the bill. (8-19-09)

The Grand Rapids Public Schools and Kent County ISD support the bill. (8-19-09)

The Lenawee ISD supports the bill. (8-19-09)

The Van Buren ISD supports the bill. (8-19-09)

The Berrien RESA Career & Technical Education Program supports the bill. (8-19-09)

The Paw Paw Public Schools support the bill. (8-19-09)

The Michigan Small & Rural Schools support the bill. (8-19-09)

The Michigan Restaurant Association supports the bill. (8-19-09)

The Ottawa, Muskegon, Kalamazoo ISD support the bill. (8-19-09)

Dr. Derrick Fries of Eastern Michigan University testified in support of the bill. (8-19-09)

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■ This analysis was prepared by nonpartisan House staff for use by House members in their deliberations, and does not constitute an official statement of legislative intent.