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BILL ANALYSIS

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Senate Bill 344 (Substitute S-2 as reported)
Sponsor: Senator John Proos
Committee: Education

Date Completed: 6-6-17

RATIONALE

As Michigan's economy continues to improve, the demand for employees qualified to fill technical positions is expected to increase. The number of STEM (science, technology, engineering, and mathematics) jobs is projected to increase more rapidly than other job categories. Employers nationwide are seeking graduates with STEM skills. According to a recent report from Deloitte and the Manufacturing Institute, STEM opportunities are expected to grow by 11.8% by 2020, compared to 8.5% growth for all occupations.[1] Some groups claim that there are not enough qualified individuals to fill these positions, including positions in Michigan. To address this situation, some have suggested that high school students should be encouraged to complete STEM coursework within their secondary education, and those who complete STEM coursework beyond what is required for a high school degree should receive formal recognition on their diplomas or transcripts in the form of a STEM endorsement.

CONTENT

The bill would amend the Revised School Code to establish a STEM endorsement for pupils who successfully completed particular requirements while in grades 7 through 12.

Specifically, a school district or public school academy could notate a pupil's transcript or diploma to indicate that pupil had earned a STEM endorsement. A pupil would be eligible for a STEM endorsement if he or she, in addition to completing all the applicable requirements of the Michigan Merit standard for a high school diploma, successfully completed all of the following credit requirements while in grades 7 to 12:

-- Six or more credits in mathematics, including at least five in courses that either are listed in Section 1278a(1)(a)(i) or cover the same content standards as a course listed in that section, and including a credit that covers the content standards for precalculus and calculus.
-- Six or more credits in science, including at least four in courses that either are listed in Section 1278b(1)(b) or cover the same content standards as a course listed in that section.
-- At least one half credit featuring significant course work involving technology activities and at least one half credit featuring significant course work involving engineering activities, which could be gained through separate technology and engineering course work or in conjunction with course work associated with the credits required in mathematics and science

(Courses listed in Section 1278a(1)(a)(i) include in algebra I, geometry, algebra II, trigonometry, statistics, precalculus, calculus, applied math, business math, and certain Department of Education-approved career or technical education programs or curricula. Courses listed in Section 1278b(1)(b) include biology, chemistry, physics, anatomy, agricultural science, forensics,

[1] Deloitte and the Manufacturing Institute, "The Skills Gap in U.S. Manufacturing", 2011.

astronomy, Earth science, environmental science, geology, physiology, microbiology, and certain Department-approved computer science or technical education programs or curricula.)

The bill would take effect 90 days after its enactment.

Proposed MCL 380.1278d

ARGUMENTS

(Please note: The arguments contained in this analysis originate from sources outside the Senate Fiscal Agency. The Senate Fiscal Agency neither supports nor opposes legislation.)

Supporting Argument

The bill would allow a school district to encourage students to go beyond the minimum requirements of the high school degree by providing them with the opportunity to earn a STEM endorsement. According to the Georgetown Public Policy Institute, by 2020, Michigan jobs in STEM fields will have increased at a growth rate of 16% since 2010.[2] The bill would benefit the State's employers by helping them to identify STEM-proficient graduates as they look to employ the next generation of talent. Michigan would be one of the first states to use an endorsement like this, making the State more competitive and giving it an advantage in securing qualified workers. Many high school students need to be encouraged to pursue training and mastery of STEM skills, and the promise of recognition by educational institutions and employers would provide this encouragement. Four-year institutions have stated they would appreciate having the additional information about which students desire to go above and beyond the minimum requirements of the high school degree. A STEM endorsement would supply this information, as well as help employers recognize employees qualified to meet the growing demand in the STEM sector.

Opposing Argument

The proposed endorsement would not actually push students into STEM courses. It would affect only students who are already taking these classes. There are other, better ways to encourage students to pursue STEM fields. Also, if Michigan moved from the promotion of STEM fields to the promotion STEAM fields (science, technology, engineering, math, plus art and design) in the future, the endorsement and accompanying legislation would have to be revised.

Opposing Argument

The bill could direct young students into certain career paths and cause them to feel stuck in that plan. The STEM endorsement also would create a class system for high school students. As a result, a student who did not complete the required coursework could be led to believe that he or she was unqualified. It would be preferable if a high school diploma carried a guarantee of a robust education in all subjects. In addition, a STEM endorsement would duplicate existing efforts because all of the coursework that a student completes already is available on a transcript. Currently, when an employer wants to know if a pupil has sufficient exposure to STEM coursework, the employer can request a copy of the individual transcript.

Response: The proposed endorsement would be completely optional; it would not be binding and it would not push students into any specific vocation. It would help them only if they decided to pursue it. The endorsement would in no way dismiss or devalue the diplomas of other high school graduates who did not pursue the endorsement.

Legislative Analyst: Nathan Leaman

FISCAL IMPACT

The bill would have no fiscal impact on the Department of Education since the bill would not mandate STEM endorsements.

[2] Georgetown Public Policy Institute, "Recovery", 2013

At the local level, costs could vary depending on whether schools decided to notate transcripts or diplomas with a STEM endorsement. If schools needed to redesign multiple classroom curricula to meet Department guidelines or add classes, then schools would have to spend resources that could be needed elsewhere. The costs of confirming that students met the qualifications for a STEM endorsement would be minor and fit within the current costs of determining whether a student meets current graduation requirements. Due to variations in schools' decisions to issue STEM endorsements and cost variations, it is not possible to estimate an average cost.

Fiscal Analyst: Cory Savino

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