Senate Fiscal Agency
P. O. Box 30036
Lansing, Michigan 48909-7536

BILL ANALYSIS

Telephone: (517) 373-5383
Fax: (517) 373-1986

Senate Bill 344 (as enacted) **PUBLIC ACT 241 of 2018**
Sponsor: Senator John Proos
Senate Committee: Education
House Committee: Workforce and Talent Development

Date Completed: 2-1-19

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 suggested that high school students should be encouraged to complete STEM coursework within their secondary education, and that 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 amended 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 may notate a pupil's transcript or diploma to indicate that pupil has earned a STEM endorsement. A pupil is 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 completes 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, including a credit 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; these may be gained through separate technology and engineering course work or in conjunction with course work associated with the credits required for 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 took effect September 26, 2018.

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 allows a school district to encourage students to go beyond the minimum requirements of a high school diploma 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 benefits the State's employers by helping them to identify STEM-proficient graduates as they look to employ the next generation of talent. Michigan is 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 provides this encouragement. Four-year institutions have stated they will 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 will supply this information, as well as help employers recognize employees qualified to meet the growing demand in the STEM sector.

Opposing Argument

The endorsement likely will not actually push students into STEM courses. It affects only students who already are 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, art and design and math) in the future, the endorsement and accompanying legislation will have to be revised.

Opposing Argument

The bill will direct young students into certain career paths and cause them to feel stuck in that plan. The STEM endorsement also may 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. Instead, a high school diploma should carry a guarantee of a robust education in all subjects. In addition, a STEM endorsement duplicates existing efforts because all of the coursework that a student completes is available on his or her transcript. 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 endorsement is completely optional; it is not binding and it will not push students into any specific vocation. It will help them only if they decide to pursue it. The endorsement in no way dismisses or devalues the diplomas of other high school graduates who do not pursue the endorsement.

Legislative Analyst: Nathan Leaman

FISCAL IMPACT

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

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

At the local level, costs will vary depending on whether schools decided to notate transcripts or diplomas with a STEM endorsement. If a school needs to redesign multiple classroom curricula to meet Department guidelines or add classes, then it will have to spend resources that may be needed elsewhere. The costs of confirming that students meet the qualifications for a STEM endorsement will 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

SAS\A1718\s344ea