

First Regular Session
Seventy-first General Assembly
STATE OF COLORADO

REENGROSSED

*This Version Includes All Amendments
Adopted in the House of Introduction*

LLS NO. 17-0896.02 Julie Pelegrin x2700

HOUSE BILL 17-1201

HOUSE SPONSORSHIP

Coleman, Lundeen

SENATE SPONSORSHIP

Zenzinger and Priola, Todd

House Committees

Education

Senate Committees

A BILL FOR AN ACT

101 **CONCERNING AUTHORIZATION FOR GRANTING A HIGH SCHOOL**
102 **DIPLOMA ENDORSEMENT IN THE COMBINED DISCIPLINES OF**
103 **SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS.**

Bill Summary

(Note: This summary applies to this bill as introduced and does not reflect any amendments that may be subsequently adopted. If this bill passes third reading in the house of introduction, a bill summary that applies to the reengrossed version of this bill will be available at <http://leg.colorado.gov>.)

The bill authorizes a school district, board of cooperative services, or institute charter high school (local education provider) to grant a high school diploma endorsement in science, technology, engineering, and mathematics (STEM) to students who demonstrate mastery in STEM. To obtain the endorsement, a student must complete the high school

Shading denotes HOUSE amendment. Double underlining denotes SENATE amendment.

Capital letters indicate new material to be added to existing statute.

Dashes through the words indicate deletions from existing statute.

HOUSE
3rd Reading Unamended
March 21, 2017

HOUSE
Amended 2nd Reading
March 20, 2017

graduation requirements at a high level of proficiency, complete 12 credit hours in STEM courses, achieve a minimum score specified in the bill on one of several specified mathematics assessments, and successfully complete a final capstone project. To successfully complete the capstone project, the student must achieve a high proficiency level of mastery, as set by the local education provider, for each of the competencies specified in the bill. The local education provider is required to work with STEM-related business and industrial leaders and institutions of higher education in setting the high proficiency levels of mastery. The local education provider must annually notify students and their parents beginning in sixth grade of the requirements for obtaining a STEM diploma endorsement.

1 *Be it enacted by the General Assembly of the State of Colorado:*

2 **SECTION 1.** In Colorado Revised Statutes, **add** 22-7-1009.5 as
3 follows:

4 **22-7-1009.5. Diploma endorsement - science, technology,
5 engineering, and mathematics - definitions.** (1) AS USED IN THIS
6 SECTION UNLESS THE CONTEXT OTHERWISE REQUIRES:

7 (a) "GRANTING LOCAL EDUCATION PROVIDER" MEANS A LOCAL
8 SCHOOL BOARD, BOCES, DISTRICT CHARTER HIGH SCHOOL, OR INSTITUTE
9 CHARTER HIGH SCHOOL THAT CHOOSES TO GRANT A STEM DIPLOMA
10 ENDORSEMENT TO A STUDENT WHO DEMONSTRATES MASTERY IN THE
11 STEM DISCIPLINES AS DESCRIBED IN THIS SECTION.

12 (b) "STEM" MEANS THE COMBINATION OF THE DISCIPLINES OF
13 SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS.

14 (2) A LOCAL EDUCATION PROVIDER MAY GRANT A DIPLOMA
15 ENDORSEMENT IN STEM TO A GRADUATING HIGH SCHOOL STUDENT WHO
16 DEMONSTRATES MASTERY IN THE STEM DISCIPLINES. TO OBTAIN AN
17 ENDORSEMENT IN STEM, A GRADUATING STUDENT MUST:

18 (a) MEET THE MINIMUM HIGH SCHOOL GRADUATION
19 REQUIREMENTS AT A HIGH LEVEL OF PROFICIENCY AS SPECIFIED BY THE

1 1 GRANTING LOCAL EDUCATION PROVIDER;

2 2 (b) SUCCESSFULLY COMPLETE WITH A GRADE POINT AVERAGE OF

3 3 AT LEAST 3.5 ON A 4.0 SCALE OR THE EQUIVALENT FOR A HIGHER SCALE A

4 4 COHERENT SEQUENCE OF AT LEAST FOUR COURSES [REDACTED] IN THE AREAS OF

5 5 SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS AS

6 6 DETERMINED BY THE GRANTING LOCAL EDUCATION PROVIDER, WHICH

7 7 COURSES ARE IN ADDITION TO THE MINIMUM GRADUATION REQUIREMENTS

8 8 IN THESE AREAS;

9 9 (c) DEMONSTRATE PROFICIENCY IN MATHEMATICS BY:

10 10 (I) ACHIEVING A SCORE OF TWENTY-EIGHT OR HIGHER ON THE

11 11 MATHEMATICS PORTION OF THE ACT COLLEGE READINESS ASSESSMENT;

12 12 (II) ACHIEVING A SCORE OF SIX HUNDRED OR HIGHER ON THE

13 13 MATHEMATICS PORTION OF THE COLLEGE READINESS ASSESSMENT

14 14 PROVIDED BY THE COLLEGE BOARD, COMMONLY KNOWN AS THE SAT;

15 15 (III) ACHIEVING A SCORE OF FIVE OR HIGHER ON THE

16 16 MATHEMATICS PORTION OF THE INTERNATIONAL BACCALAUREATE TEST;

17 17 OR

18 18 (IV) ACHIEVING A SCORE OF FOUR OR HIGHER ON THE ADVANCED

19 19 PLACEMENT MATHEMATICS ASSESSMENT; AND

20 20 (d) SUCCESSFULLY COMPLETE A FINAL CAPSTONE PROJECT, WHICH

21 21 IS A CULMINATING EXHIBITION OF THE STUDENT'S PROJECT OR EXPERIENCE

22 22 THAT DEMONSTRATES ACADEMIC AND INTELLECTUAL LEARNING. TO

23 23 SUCCESSFULLY COMPLETE A FINAL CAPSTONE PROJECT, THE STUDENT

24 24 MUST ACHIEVE A HIGH PROFICIENCY LEVEL OF MASTERY, AS SET BY THE

25 25 GRANTING LOCAL EDUCATION PROVIDER, FOR EACH OF THE FOLLOWING

26 26 COMPETENCIES:

27 27 (I) INQUIRY-BASED LEARNING, WHICH IS DEMONSTRATED

1 THROUGH THE CAPSTONE PROJECT BY ASKING QUESTIONS AND DEFINING
2 PROBLEMS;

3 (II) CREATIVE PROBLEM-SOLVING, WHICH IS DEMONSTRATED
4 THROUGH THE CAPSTONE PROJECT BY DEVELOPING AND APPLYING
5 SCIENTIFIC AND MATHEMATICAL MODELS TO EXPLAIN COMPLEX IDEAS AND
6 SOLUTIONS;

7 (III) EXPERIMENTATION, WHICH IS DEMONSTRATED THROUGH THE
8 CAPSTONE PROJECT BY PLANNING AND CARRYING OUT INVESTIGATIONS;

9 (IV) CRITICAL THINKING, WHICH IS DEMONSTRATED THROUGH THE
10 CAPSTONE PROJECT BY ANALYZING AND INTERPRETING DATA AND
11 COMMUNICATING CONCLUSIONS;

12 (V) DEDUCTIVE AND INDUCTIVE REASONING, WHICH IS
13 DEMONSTRATED THROUGH THE CAPSTONE PROJECT BY USING
14 MATHEMATICS AND COMPUTATIONAL THINKING;

15 (VI) UNDERSTANDING OF ENGINEERING PRINCIPLES, WHICH IS
16 DEMONSTRATED THROUGH THE CAPSTONE PROJECT BY CONSTRUCTING
17 EXPLANATIONS AND DESIGNING SOLUTIONS; AND

18 (VII) EFFECTIVE COMMUNICATION SKILLS, WHICH ARE
19 DEMONSTRATED THROUGH THE CAPSTONE PROJECT BY ENGAGING IN
20 ARGUMENT FROM EVIDENCE.

21 (3) EACH GRANTING LOCAL EDUCATION PROVIDER SHALL WORK
22 WITH STEM-RELATED BUSINESS AND INDUSTRIAL LEADERS IN THE LOCAL
23 COMMUNITY AND WITH APPROPRIATE INSTITUTIONS OF HIGHER EDUCATION
24 TO ESTABLISH THE HIGH PROFICIENCY LEVELS OF MASTERY THAT A
25 STUDENT MUST DEMONSTRATE IN EACH OF THE COMPETENCIES DESCRIBED
26 IN SUBSECTION (2)(d) OF THIS SECTION.

27 (4) EACH GRANTING LOCAL EDUCATION PROVIDER SHALL

1 ANNUALLY PROVIDE TO STUDENTS ENROLLED IN GRADES SIX THROUGH
2 TWELVE AND THEIR PARENTS INFORMATION CONCERNING THE
3 REQUIREMENTS FOR OBTAINING THE STEM DIPLOMA ENDORSEMENT.

4 **SECTION 2. Safety clause.** The general assembly hereby finds,
5 determines, and declares that this act is necessary for the immediate
6 preservation of the public peace, health, and safety.