

Representative Merlynn T. Newbold proposes the following substitute bill:

MATH EDUCATION INITIATIVE

2011 GENERAL SESSION

STATE OF UTAH

Chief Sponsor: Howard A. Stephenson

House Sponsor: Merlynn T. Newbold

LONG TITLE

General Description:

This bill creates a program that awards grants for the improvement of math education.

Highlighted Provisions:

This bill:

- ▶ requires the Legislature to annually appropriate money to the State Board of Education for the Math Education Initiative, subject to future budget constraints;
- ▶ directs the State Board of Education to use money appropriated for the Math Education Initiative to award grants to schools for honors mathematics courses;
- ▶ imposes requirements for honors mathematics courses and teachers; and
- ▶ directs the State Board of Education to hire a contractor to develop a bank of problems for honors mathematics courses.

Money Appropriated in this Bill:

This bill appropriates:

- ▶ to the State Board of Education for fiscal year 2011-12, as an ongoing appropriation:
 - from the Education Fund, \$63,000.

Other Special Clauses:

This bill provides an effective date.



26 **Utah Code Sections Affected:**

27 ENACTS:

28 **53A-13-401**, Utah Code Annotated 1953

29 **53A-13-402**, Utah Code Annotated 1953

30 **53A-13-403**, Utah Code Annotated 1953

31 **53A-13-404**, Utah Code Annotated 1953

32 **53A-13-405**, Utah Code Annotated 1953

33 **53A-13-406**, Utah Code Annotated 1953

34 **53A-13-407**, Utah Code Annotated 1953



36 *Be it enacted by the Legislature of the state of Utah:*

37 Section 1. Section **53A-13-401** is enacted to read:

38 **Part 4. Math Education Initiative**

39 **53A-13-401. Definitions.**

40 As used in this part:

41 (1) "Board" means the State Board of Education.

42 (2) "Honors mathematics" includes honors algebra I, honors algebra II, and honors
43 geometry.

44 Section 2. Section **53A-13-402** is enacted to read:

45 **53A-13-402. Purposes of the Math Education Initiative.**

46 The Math Education Initiative is created to:

47 (1) make Utah the premier state for math education and a recognized source of skilled
48 scientists and engineers;

49 (2) meet the demand of Utah employers for workers with high math skills; and

50 (3) entice companies that require a highly skilled technical workforce to locate in the
51 state.

52 Section 3. Section **53A-13-403** is enacted to read:

53 **53A-13-403. Annual appropriation for Math Education Initiative -- Use of Math**
54 **Education Initiative money.**

55 (1) Subject to future budget constraints, the Legislature shall annually appropriate
56 money to the board for the Math Education Initiative.

57 (2) From money appropriated for the Math Education Initiative, the board shall:

58 (a) award grants to schools to pay for stipends for teachers who teach honors

59 mathematics courses; and

60 (b) contract with a person, selected through a request for proposals process, to develop

61 a bank of problems that may be used to assess students' understanding and proficiency in

62 honors mathematics courses.

63 Section 4. Section **53A-13-404** is enacted to read:

64 **53A-13-404. Grants for honors mathematics courses.**

65 (1) Subject to funding for honors mathematics courses, the board shall make grants to

66 schools to pay for stipends in the amount of \$1,600 per year for teachers of honors mathematics

67 courses.

68 (2) The board shall establish procedures for applying for and awarding the grants

69 described in Subsection (1).

70 (3) A teacher who receives a stipend to teach an honors mathematics course shall agree

71 to:

72 (a) develop the skills and knowledge necessary to teach the curriculum and learning

73 objectives of an honors mathematics course as described in Subsection 53A-15-405;

74 (b) select a textbook or instructional material in accordance with the requirements of

75 Section 53A-15-406; and

76 (c) administer end-of-semester tests in accordance with Section 53A-15-407.

77 (4) If funding for honors mathematics courses is not sufficient to provide the \$1,600

78 stipend for teachers of honors mathematics courses who had received the stipend in the prior

79 school year, the board may reduce the amount of the stipend for teachers of honors

80 mathematics courses.

81 Section 5. Section **53A-13-405** is enacted to read:

82 **53A-13-405. Honors algebra and honors geometry -- Curriculum and learning**

83 **objectives.**

84 (1) (a) Honors algebra encompasses, but is not limited to, the requirements of the

85 algebra core curriculum.

86 (b) Honors algebra students shall:

87 (i) have the opportunity to derive formulas or prove algebra theorems before making

88 use of them to solve problems; and

89 (ii) learn to solve a wide variety of word problems ranging from introductory to
90 challenging.

91 (c) (i) Honors algebra I shall be a one-year course, taught during a single year.

92 (ii) Honors algebra II shall be a one-year course, taught during a single year.

93 (2) (a) Honors geometry encompasses, but is not limited to, the requirements of the
94 geometry core curriculum.

95 (b) The focus of honors geometry shall be doing proofs.

96 (c) Honors geometry students shall learn how to do proofs ranging from easy to
97 challenging.

98 (3) Honors geometry shall be a one year course, taught during a single year.

99 Section 6. Section **53A-13-406** is enacted to read:

100 **53A-13-406. Honors algebra and honors geometry -- Textbooks.**

101 (1) An honors algebra textbook shall have many introductory, midlevel, and
102 challenging problems, including word problems.

103 (2) The focus and the majority of problems in an honors geometry textbook shall be
104 proofs.

105 (3) An honors mathematics teacher:

106 (a) may select a textbook or instructional material that in the teacher's judgement meets
107 the requirements of Subsection (1) or (2) and is aligned with the curriculum and learning
108 objectives described in Section 53A-15-405; and

109 (b) is not required to select a textbook or instructional material recommended by the
110 State Instructional Materials Commission.

111 (4) At the request of an honors mathematics teacher, the State Board of Education shall
112 attempt to acquire the permission necessary to reproduce, either online or in print, an
113 out-of-print textbook.

114 Section 7. Section **53A-13-407** is enacted to read:

115 **53A-13-407. Honors algebra and honors geometry -- Online bank of problems --**

116 **Tests.**

117 (1) The State Board of Education shall hire a contractor, selected through a request for
118 proposals process, to develop a bank of problems for honors mathematics courses that are

119 aligned with the curriculum and learning objections described in Section 53A-15-405.

120 (2) To qualify for a contract to develop a bank of problems for honors mathematics
121 courses, an individual responsible for developing the problems must have a doctorate in
122 mathematics.

123 (3) A contractor who develops a bank of problems for honors mathematics courses
124 shall take and consider public comment on the bank of problems.

125 (4) (a) The bank of problems shall include 40 or more introductory problems, 40 or
126 more midlevel problems, and 40 more challenging problems for each semester of an honors
127 mathematics course.

128 (b) At least 40% of the problems for honors algebra courses shall be word problems.

129 (5) From the bank of problems developed under this section, an honors mathematics
130 teacher shall develop tests that shall be administered at the end of each semester of instruction.

131 (6) The State Board of Education shall make available online the entire bank of
132 problems developed under this section so that teachers and students may have a better
133 understanding of the learning objectives for honors mathematics courses.

134 **Section 8. Appropriation.**

135 Under the terms and conditions of Title 63J, Chapter 1, Budgetary Procedures Act, the
136 following sums of money are appropriated from resources not otherwise appropriated out of the
137 funds or accounts indicated for the fiscal year beginning July 1, 2011 and ending June 30,
138 2012. These are additions to amounts previously appropriated for fiscal year 2011-12.

139 To State Board of Education - Utah State Office of Education - Initiative Programs
140 From Education Fund \$63,000

141 Schedule of Programs:

142 Contracts and Grants \$63,000

143 It is the intent of the Legislature that up to \$15,000 of the appropriation for the honors
144 mathematics program may be used to pay a contractor to develop a bank of problems for
145 honors mathematics courses.

146 **Section 9. Effective date.**

147 (1) Except as provided in Subsection (2), if approved by two-thirds of all the members
148 elected to each house, this bill takes effect upon approval by the governor, or the day following
149 the constitutional time limit of Utah Constitution Article VII, Section 8, without the governor's

150 signature, or in the case of a veto override.

151 (2) Uncodified Section 8, Appropriation, takes effect on July 1, 2011.

FISCAL NOTE

S.B. 179 1st Sub. (Green)

SHORT TITLE: Math Education Initiative

SPONSOR: Stephenson, H.

2011 GENERAL SESSION, STATE OF UTAH

STATE GOVERNMENT (UCA 36-12-13(2)(b))

Enactment of this bill appropriates \$63,000 in ongoing Education Funds to the State Board of Education to implement the provisions of the bill.

STATE BUDGET DETAIL TABLE

	FY 2011	FY 2012	FY 2013
Revenue	\$0	\$0	\$0
Expenditure:			
Education Fund	\$0	\$63,000	\$63,000
Total Expenditure	\$0	\$63,000	\$63,000
Net Impact, All Funds (Rev.-Exp.)	\$0	(\$63,000)	(\$63,000)
Net Impact, General/Education Funds	\$0	(\$63,000)	(\$63,000)

LOCAL GOVERNMENTS (UCA 36-12-13(2)(c))

Enactment of this bill likely will not result in direct, measurable costs for local governments.

DIRECT EXPENDITURES BY UTAH RESIDENTS AND BUSINESSES (UCA 36-12-13(2)(d))

Enactment of this bill likely will not result in direct, measurable expenditures by Utah residents or businesses.