

**SCIENCE, TECHNOLOGY, ENGINEERING, AND
MATHEMATICS AMENDMENTS**

2014 GENERAL SESSION

STATE OF UTAH

Chief Sponsor: Val L. Peterson

Senate Sponsor: _____

LONG TITLE

General Description:

This bill amends provisions relating to the Science, Technology, Engineering, and Mathematics Action Center.

Highlighted Provisions:

This bill:

- ▶ defines terms;
- ▶ adds members to the STEM Action Center Board;
- ▶ allows the STEM Action Center Board to create a foundation;
- ▶ specifies that the STEM Action Center shall support high quality professional development for educators related to STEM education in kindergarten through grade 12;
- ▶ allows the STEM Action Center to further STEM education with nontechnological means;
- ▶ expands the scope of the STEM education related technology program to more students;
- ▶ creates the STEM education endorsement and incentive program;
- ▶ requires the STEM Action Center to select technology providers to create a certain professional development application;
- ▶ requires the STEM Action Center to create in-person STEM education high quality



28 professional development;

29 ▶ creates the STEM education middle school applied science initiative; and

30 ▶ creates the STEM education high school applied science initiative.

31 **Money Appropriated in this Bill:**

32 This bill appropriates in fiscal year 2015:

33 ▶ to the Governor's Office of Economic Development - STEM Action Center, as an
34 ongoing appropriation:

35 • from the General Fund, \$10,000,000; and

36 ▶ to the Governor's Office of Economic Development - STEM Action Center, as a
37 one-time appropriation:

38 • from the General Fund, \$13,500,000.

39 **Other Special Clauses:**

40 This bill provides an effective date.

41 **Utah Code Sections Affected:**

42 AMENDS:

43 **63M-1-3201**, as enacted by Laws of Utah 2013, Chapter 336

44 **63M-1-3202**, as enacted by Laws of Utah 2013, Chapter 336

45 **63M-1-3203**, as enacted by Laws of Utah 2013, Chapter 336

46 **63M-1-3204**, as enacted by Laws of Utah 2013, Chapter 336

47 **63M-1-3205**, as enacted by Laws of Utah 2013, Chapter 336

48 **63M-1-3207**, as enacted by Laws of Utah 2013, Chapter 336

49 ENACTS:

50 **63M-1-3208**, Utah Code Annotated 1953

51 **63M-1-3209**, Utah Code Annotated 1953

52 **63M-1-3210**, Utah Code Annotated 1953

53 **63M-1-3211**, Utah Code Annotated 1953

54

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

56 Section 1. Section **63M-1-3201** is amended to read:

57 **63M-1-3201. Definitions.**

58 As used in this part:

59 (1) "Board" means the STEM Action Center Board created in Section [63M-1-3202](#).

60 (2) "Educator" has the meaning defined in Section [53A-6-103](#).

61 (3) "High quality professional development" means professional development that
 62 meets high quality standards developed by the State Board of Education.

63 [~~3~~] (4) "Office" means the Governor's Office of Economic Development.

64 [~~4~~] (5) "Provider" means a provider, selected by staff of the board and staff of the
 65 Utah State Board of Education, on behalf of the board:

66 (a) through a request for proposals process; or

67 (b) through a direct award or sole source procurement process for a pilot described in
 68 Section [63M-1-3205](#).

69 [~~5~~] (6) "STEM" means science, technology, engineering, and mathematics.

70 [~~6~~] (7) "STEM Action Center" means the center described in Section [63M-1-3204](#).

71 Section 2. Section **63M-1-3202** is amended to read:

72 **63M-1-3202. STEM Action Center Board creation -- Membership.**

73 (1) There is created the STEM Action Center Board within the office, composed of the
 74 following members:

75 (a) [~~five~~] six private sector members who represent business, appointed by the
 76 governor;

77 (b) the state superintendent of public instruction or the state superintendent of public
 78 instruction's designee;

79 (c) the commissioner of higher education or the commissioner of higher education's
 80 designee;

81 (d) one member appointed by the governor;

82 (e) a member of the State Board of Education, chosen by the chair of the State Board of
 83 Education;

84 (f) the executive director of the Governor's Office of Economic Development or the
 85 executive director of the Governor's Office of Economic Development's designee; [~~and~~]

86 (g) the president of the Utah College of Applied Technology or the president of the
 87 Utah College of Applied Technology's designee[;];

88 (h) one member who has a degree in engineering and experience working in a
 89 government military installation;

90 (i) one member of the House of Representatives, appointed by the speaker of the House
91 of Representatives; and

92 (j) one member of the Senate, appointed by the president of the Senate.

93 (2) (a) The private sector members appointed by the governor in Subsection (1)(a) shall
94 represent a business or trade association whose primary focus is science, technology, or
95 engineering.

96 (b) Except as required by Subsection (2)(c), members appointed by the governor shall
97 be appointed to four-year terms.

98 (c) The length of terms of the members shall be staggered so that approximately half of
99 the committee is appointed every two years.

100 (d) The members may not serve more than two full consecutive terms except where the
101 governor determines that an additional term is in the best interest of the state.

102 (e) When a vacancy occurs in the membership for any reason, the replacement shall be
103 appointed for the unexpired term.

104 (3) Attendance of a simple majority of the members constitutes a quorum for the
105 transaction of official committee business.

106 (4) Formal action by the committee requires a majority vote of a quorum.

107 (5) A member may not receive compensation or benefits for the member's service, but
108 may receive per diem and travel expenses in accordance with:

109 (a) Section [63A-3-106](#);

110 (b) Section [63A-3-107](#); and

111 (c) rules made by the Division of Finance pursuant to Sections [63A-3-106](#) and
112 [63A-3-107](#).

113 (6) The governor shall select the chair of the board to serve a one-year term.

114 (7) The executive director of the Governor's Office of Economic Development or the
115 executive director of the Governor's Office of Economic Development's designee shall serve as
116 the vice chair of the board.

117 ~~[(8) The state science advisor described in Section [63M-1-606](#) and the office shall~~
118 ~~provide staff support to the board.]~~

119 Section 3. Section **63M-1-3203** is amended to read:

120 **63M-1-3203. STEM Action Center Board -- Duties.**

- 121 (1) The board shall:
- 122 (a) establish a STEM Action Center program to:
- 123 (i) coordinate STEM activities in the state among the following stakeholders:
- 124 (A) the State Board of Education;
- 125 (B) school districts and charter schools;
- 126 (C) the State Board of Regents;
- 127 (D) institutions of higher education;
- 128 (E) parents of home-schooled students; and
- 129 (F) other state agencies;
- 130 (ii) align public education STEM activities with higher education STEM activities; and
- 131 (iii) create and coordinate best practices among public education and higher education;
- 132 (b) with the consent of the Senate, appoint an executive director to oversee the
- 133 administration of the STEM Action Center;
- 134 (c) select a physical location for the STEM Action Center;
- 135 (d) strategically engage industry and business entities to cooperate with the board:
- 136 (i) to support high quality professional development and provide other assistance for
- 137 educators and students; and
- 138 (ii) to provide private funding and support for the STEM Action Center;
- 139 (e) give direction to the STEM Action Center and the providers selected through a
- 140 request for proposals process pursuant to this part; and
- 141 (f) work to meet the following expectations:
- 142 (i) that at least 50 educators are implementing best practice learning tools in
- 143 classrooms per each product specialist or manager working with the STEM Action Center;
- 144 (ii) performance change in student achievement in each classroom working with a
- 145 STEM Action Center product specialist or manager; and
- 146 (iii) that students from at least 50 high schools participate in the STEM competitions,
- 147 fairs, and camps described in Subsection [63M-1-3204\(2\)\(d\)](#).
- 148 (2) The board may:
- 149 (a) enter into contracts for the purposes of this part;
- 150 (b) apply for, receive, and disburse funds, contributions, or grants from any source for
- 151 the purposes set forth in this part;

152 (c) employ, compensate, and prescribe the duties and powers of individuals necessary
153 to execute the duties and powers of the board;

154 (d) prescribe the duties and powers of the STEM Action Center providers; and

155 (e) in accordance with Title 63G, Chapter 3, Utah Administrative Rulemaking Act,
156 make rules to administer this part.

157 (3) The board may establish a foundation to assist in:

158 (a) the development and implementation of the programs authorized under this part to
159 promote STEM education; and

160 (b) implementation of other STEM education objectives described in this part.

161 (4) A foundation established by the board under Subsection (3):

162 (a) may solicit and receive contributions from a private organization for STEM
163 education objectives described in this part;

164 (b) shall comply with Title 51, Chapter 7, State Money Management Act;

165 (c) does not have power or authority to incur contractual obligations or liabilities that
166 constitute a claim against public funds;

167 (d) may not exercise executive or administrative authority over the programs or other
168 activities described in this part, except to the extent specifically authorized by the board;

169 (e) shall provide the board with information detailing transactions and balances of
170 funds managed for the board; and

171 (f) may not:

172 (i) engage in lobbying activities;

173 (ii) attempt to influence legislation; or

174 (iii) participate in any campaign activity for or against:

175 (A) a political candidate; or

176 (B) an initiative, referendum, proposed constitutional amendment, bond, or any other
177 ballot proposition submitted to the voters.

178 Section 4. Section **63M-1-3204** is amended to read:

179 **63M-1-3204. STEM Action Center.**

180 (1) As funding allows, the board shall:

181 (a) establish a STEM Action Center;

182 (b) ensure that the STEM Action Center:

- 183 (i) is accessible by the public; and
- 184 (ii) includes the components described in Subsection (2);
- 185 (c) work cooperatively with the State Board of Education to ~~[acquire technology and~~
186 ~~select schools]~~;
- 187 (i) further STEM education; and
- 188 (ii) ensure best practices are implemented as described in Sections 63M-1-3205 and
189 63M-1-3206; and
- 190 (d) engage private entities to provide financial support or employee time for STEM
191 activities in schools in addition to what is currently provided by private entities.
- 192 (2) As funding allows, the executive director of the STEM Action Center shall:
- 193 (a) support high quality professional development for educators regarding ~~[education~~
194 ~~related instructional technology that supports]~~ STEM education;
- 195 (b) ensure that the STEM Action Center acts as a research and development center for
196 STEM education ~~[related instructional technology acquired]~~ through a request for proposals
197 process described in Section 63M-1-3205;
- 198 (c) review and acquire STEM education related ~~[technology]~~ materials and products
199 for:
- 200 (i) ~~[educator]~~ high quality professional development;
- 201 (ii) assessment, data collection, analysis, and reporting; and
- 202 (iii) public school instruction;
- 203 (d) facilitate participation in interscholastic STEM related competitions, fairs, ~~[and]~~
204 camps, and STEM education activities;
- 205 (e) engage private industry in the development and maintenance of the STEM Action
206 Center and STEM Action Center projects;
- 207 (f) use resources to bring the latest STEM education learning tools into public
208 education classrooms;
- 209 (g) identify at least 10 best practice innovations used in Utah ~~[schools]~~ that have
210 resulted in at least 80% of students performing at grade level in STEM areas;
- 211 (h) identify best practices being used outside the state and, as appropriate, develop and
212 implement selected practices through a pilot program;
- 213 (i) identify:

214 (i) ~~[three]~~ learning tools for kindergarten through grade 6 identified as best practices;
215 and

216 (ii) ~~[three]~~ learning tools [~~per STEM subject~~] for grades 7 through 12 identified as best
217 practices;

218 (j) provide a Utah best practices database, including best practices from public
219 education, higher education, the Utah Education Network, and other STEM related entities;

220 (k) keep track of the following items related to the best practices database described in
221 Subsection (2)(j):

222 (i) how the best practices database is being used; and

223 (ii) how many individuals are using the database, including the demographics of the
224 users, if available;

225 (l) as appropriate, join and participate in a national STEM network;

226 (m) identify performance changes linked to use of the best practices database described
227 in Subsection (2)(j);

228 (n) work cooperatively with the State Board of Education to designate schools as
229 STEM schools, where the schools have agreed to adopt a plan of STEM implementation in
230 alignment with criteria set by the State Board of Education and the board;

231 (o) support best methods of high quality professional development~~;~~ for STEM
232 education in kindergarten through grade 12, including methods of high quality professional
233 development that reduce cost and increase effectiveness, to help educators learn how to most
234 effectively implement best practice learning tools in classrooms;

235 (p) recognize a high school's achievement in the STEM competitions, fairs, and camps
236 described in Subsection (2)(d);

237 (q) send student results from STEM competitions, fairs, and camps described in
238 Subsection (2)(d) to media and ask the media to report on them;

239 (r) develop and distribute STEM [~~toolkits~~] information to parents of students being
240 served by the STEM Action Center;

241 (s) support targeted high quality professional development for improved instruction in
242 STEM [~~in grades 6, 7, and 8~~], including:

243 (i) improved instructional materials that are dynamic and engaging for students;

244 (ii) targeted instruction for students who traditionally avoid enrolling in STEM

245 courses;

246 (iii) introduction of [~~engaging engineering courses~~] applied instruction; and

247 (iv) introduction of other research-based methods that support student achievement in
248 STEM areas; and

249 (t) ensure that an online college readiness assessment tool be accessible by:

250 (i) public education students; and

251 (ii) higher education students.

252 (3) The board may prescribe other duties for the STEM Action Center in addition to
253 the responsibilities described in this section.

254 (4) (a) The executive director shall track and compare the student performance of
255 students participating in a STEM Action Center program to all other similarly situated students
256 in the state, in the following STEM related activities, at the beginning and end of each year:

257 (i) public education high school graduation rates;

258 (ii) the number of students taking a remedial mathematics course at an institution of
259 higher education described in Section [53B-2-101](#);

260 (iii) the number of students who graduate from a Utah public school and begin a
261 postsecondary education program; and

262 (iv) the number of students, as compared to all similarly situated students, who are
263 performing at grade level in STEM classes.

264 (b) The State Board of Education and the State Board of Regents shall provide
265 information to the board to assist the board in complying with the requirements of Subsection
266 (4)(a) if allowed under federal law.

267 Section 5. Section **63M-1-3205** is amended to read:

268 **63M-1-3205. Acquisition of STEM education related instructional technology**
269 **program -- Research and development of education related instructional technology**
270 **through a pilot program.**

271 (1) For purposes of this section:

272 (a) "Pilot" means a pilot of the program.

273 (b) "Program" means the STEM education related instructional technology program
274 created in Subsection (2).

275 (2) (a) There is created the STEM education related instructional technology program

276 to provide public schools the STEM education related instructional technology described in
277 Subsection (3).

278 (b) On behalf of the board, the staff of the board and the staff of the State Board of
279 Education shall collaborate and may select one or more providers, through a request for
280 proposals process, to provide STEM education related instructional technology to school
281 districts and charter schools.

282 (c) On behalf of the board, the staff of the board and the staff of the State Board of
283 Education shall consider and may accept an offer from a provider in response to the request for
284 proposals described in Subsection (2)(b) even if the provider did not participate in a pilot
285 described in Subsection (5).

286 (3) The STEM education related instructional technology shall:

287 (a) support mathematics instruction for students in [~~grade 6, 7, or 8; or~~];

288 (i) kindergarten through grade 6; or

289 (ii) grades 7 and 8; or

290 (b) support mathematics instruction for secondary students to prepare the secondary
291 students for college mathematics courses.

292 (4) In selecting a provider for STEM education related instructional technology to
293 support mathematics instruction for the students [~~in grade 6, 7, or 8 as~~] described in Subsection
294 (3)(a), the board shall consider the following criteria:

295 (a) the technology contains individualized instructional support for skills and
296 understanding of the core standards in mathematics;

297 (b) the technology is self-adapting to respond to the needs and progress of the learner;
298 and

299 (c) the technology provides opportunities for frequent, quick, and informal assessments
300 and includes an embedded progress monitoring tool and mechanisms for regular feedback to
301 students and teachers.

302 (5) Before issuing a request for proposals described in Subsection (2), on behalf of the
303 board, the staff of the board and the staff of the State Board of Education shall collaborate and
304 may:

305 (a) conduct a pilot of the program to test and select providers for the program;

306 (b) select at least two providers through a direct award or sole source procurement

307 process for the purpose of conducting the pilot; and

308 (c) select schools to participate in the pilot.

309 (6) (a) A contract with a provider for STEM education related instructional technology
310 may include professional development for full deployment of the STEM education related
311 instructional technology.

312 (b) No more than 10% of the money appropriated for the program may be used to
313 provide professional development related to STEM education related instructional technology
314 in addition to the professional development described in Subsection (6)(a).

315 Section 6. Section **63M-1-3207** is amended to read:

316 **63M-1-3207. Report to Legislature and the State Board of Education.**

317 (1) The board shall report the progress of the STEM Action Center, including the
318 information described in Subsection (2), to the following groups once each year:

319 (a) the Education Interim Committee;

320 (b) the Public Education Appropriations Subcommittee; and

321 (c) the State Board of Education.

322 (2) The report described in Subsection (1) shall include information that demonstrates
323 the effectiveness of the program, including:

324 (a) the number of educators receiving high quality professional development;

325 (b) the number of students receiving services from the STEM Action Center;

326 (c) a list of the providers selected pursuant to this part;

327 (d) a report on the STEM Action Center's fulfilment of its duties described in
328 Subsection **63M-1-3204**; and

329 (e) student performance of students participating in a STEM Action Center program as
330 collected in Subsection **63M-1-3204**(4).

331 Section 7. Section **63M-1-3208** is enacted to read:

332 **63M-1-3208. STEM education endorsement and incentive program.**

333 The STEM Action Center shall collaborate with the State Board of Education to:

334 (1) develop a STEM education endorsement; and

335 (2) create and implement financial incentives for educators who earn an elementary or
336 secondary STEM education endorsement described in Subsection (1).

337 Section 8. Section **63M-1-3209** is enacted to read:

338 **63M-1-3209. Acquisition of STEM education high quality professional**
339 **development.**

340 (1) From the technology providers tested under the pilot described in Subsection
341 63M-1-3205(5), the STEM Action Center shall, in accordance with Chapter 63G, Title 6a,
342 Utah Procurement Code, select technology providers for the purpose of providing a STEM
343 education high quality professional development application.

344 (2) The high quality professional development application described in Subsection (1)
345 shall:

346 (a) allow the State Board of Education, a school district, or a school to define the
347 application's input and track educator performance;

348 (b) allow educators to access automatic tools, resources, and strategies;

349 (c) allow educators to work in online learning communities, including giving and
350 receiving feedback via uploaded video;

351 (d) track and report data on the usage of the components of the application's system
352 and the relationship to improvement in classroom instruction;

353 (e) include video examples of highly effective STEM education teaching that:

354 (i) cover a cross section of grade levels and subjects;

355 (ii) under the direction of the State Board of Education, include videos of highly
356 effective Utah STEM educators; and

357 (iii) contain tools to help educators implement what they have learned; and

358 (f) allow for additional STEM education video content to be added.

359 (3) In addition to the high quality professional development application described in
360 Subsections (1) and (2), the STEM Action Center may create STEM education hybrid or
361 blended high quality professional development that allows for face-to-face applied learning.

362 Section 9. Section **63M-1-3210** is enacted to read:

363 **63M-1-3210. STEM education middle school applied science initiative.**

364 (1) The STEM Action Center shall develop an applied science program for students in
365 grades 7 and 8.

366 (2) The program described in Subsection (1) shall include:

367 (a) a STEM applied science curriculum with instructional materials;

368 (b) STEM hybrid or blended high quality professional development that allows for

369 face-to-face applied learning; and

370 (c) hands-on tools for STEM applied science learning.

371 (3) The STEM Action Center may, through the request for proposals process, select a
372 consultant to assist in developing the program described in Subsection (1).

373 Section 10. Section **63M-1-3211** is enacted to read:

374 **63M-1-3211. High school STEM education initiative.**

375 (1) Subject to legislative appropriations, the STEM Action Center shall award grants to
376 school districts and charter schools to fund STEM certification for high school students.

377 (2) (a) A school district or charter school may apply for a grant from the STEM Action
378 Center, through a competitive process, to fund the school district's or charter school's STEM
379 certification training program.

380 (b) A school district's or charter school's STEM certification training program shall:

381 (i) prepare high school students to be job ready for available STEM positions of
382 employment; and

383 (ii) when a student completes the program, result in the student gaining a nationally
384 industry-recognized employer STEM certification.

385 (3) A school district or charter school may partner with a Utah College of Technology
386 college campus or private sector employer to provide a STEM certification training program.

387 Section 11. **Appropriation.**

388 Under the terms and conditions of Title 63J, Chapter 1, Budgetary Procedures Act, for
389 the fiscal year beginning July 1, 2014, and ending June 30, 2015, the following sums of money
390 are appropriated from resources not otherwise appropriated, or reduced from amounts
391 previously appropriated, out of the funds or accounts indicated. These sums of money are in
392 addition to any amounts previously appropriated for fiscal year 2015.

393 To Governor's Office of Economic Development - STEM Action Center

394 From General Fund \$10,000,000

395 From General Fund, one-time \$13,500,000

396 Schedule of Programs:

397 STEM Action Center \$23,500,000

398 The Legislature intends that:

399 (1) up to \$5,000,000 of the appropriation for the STEM Action Center program be used

400 for STEM education related instructional technology and related professional development to
401 support mathematics instruction as described in Subsection 63M-1-3205(3)(a) and Section
402 63M-1-3206, and related assessment, data collection, analysis, and reporting;

403 (2) up to \$5,000,000 of the appropriation for the STEM Action Center program be used
404 for developing the STEM education endorsement and related incentive program described in
405 Section 63M-1-3208;

406 (3) up to \$5,000,000 of the appropriation for the STEM Action Center program be used
407 for providing a STEM education high quality professional development application as
408 described in Section 63M-1-3209;

409 (4) up to \$3,500,000 of the appropriation for the STEM Action Center program be used
410 to fund the STEM education middle school applied science initiative described in Section
411 63M-1-3210;

412 (5) up to \$5,000,000 of the appropriation for the STEM Action Center program be used
413 to fund the high school STEM education initiative described in Section 63M-1-3210;

414 (6) the appropriations described in Subsections (3), (4), and (5):

415 (a) are one-time; and

416 (b) not lapse at the close of fiscal year 2015; and

417 (7) the appropriations described in Subsections (1) and (2):

418 (a) are ongoing; and

419 (b) not lapse at the close of fiscal year 2015.

420 Section 12. **Effective date.**

421 (1) Except as provided in Subsection (2), if approved by two-thirds of all the members
422 elected to each house, this bill takes effect upon approval by the governor, or the day following
423 the constitutional time limit of Utah Constitution, Article VII, Section 8, without the governor's
424 signature, or in the case of a veto, the date of veto override.

425 (2) Uncodified Section 11, Appropriation, takes effect on July 1, 2014.

Legislative Review Note
as of 2-19-14 2:25 PM

Office of Legislative Research and General Counsel