

**Representative Val L. Peterson** proposes the following substitute bill:

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

2014 GENERAL SESSION

STATE OF UTAH

**Chief Sponsor: Val L. Peterson**

Senate Sponsor: Stephen H. Urquhart

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**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 endorsements and incentive program;
- ▶ requires the STEM Action Center to select technology providers to create a certain



26 professional development application;

- 27       ▶ 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



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, appointed by the governor;

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 (5) Money donated to a foundation established under Subsection (3) may be accounted  
179 for in an expendable special revenue fund.

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

- 181 **63M-1-3204. STEM Action Center.**
- 182 (1) As funding allows, the board shall:
- 183 (a) establish a STEM Action Center;
- 184 (b) ensure that the STEM Action Center:
- 185 (i) is accessible by the public; and
- 186 (ii) includes the components described in Subsection (2);
- 187 (c) work cooperatively with the State Board of Education to [~~acquire technology and~~
- 188 ~~select schools~~];
- 189 (i) further STEM education; and
- 190 (ii) ensure best practices are implemented as described in Sections [63M-1-3205](#) and
- 191 [63M-1-3206](#); and
- 192 (d) engage private entities to provide financial support or employee time for STEM
- 193 activities in schools in addition to what is currently provided by private entities.
- 194 (2) As funding allows, the executive director of the STEM Action Center shall:
- 195 (a) support high quality professional development for educators regarding [~~education~~
- 196 ~~related instructional technology that supports~~] STEM education;
- 197 (b) ensure that the STEM Action Center acts as a research and development center for
- 198 STEM education [~~related instructional technology acquired~~] through a request for proposals
- 199 process described in Section [63M-1-3205](#);
- 200 (c) review and acquire STEM education related [~~technology~~] materials and products
- 201 for:
- 202 (i) [~~educator~~] high quality professional development;
- 203 (ii) assessment, data collection, analysis, and reporting; and
- 204 (iii) public school instruction;
- 205 (d) facilitate participation in interscholastic STEM related competitions, fairs, [~~and~~
- 206 ~~camps, and STEM education activities~~];
- 207 (e) engage private industry in the development and maintenance of the STEM Action
- 208 Center and STEM Action Center projects;
- 209 (f) use resources to bring the latest STEM education learning tools into public
- 210 education classrooms;
- 211 (g) identify at least 10 best practice innovations used in Utah [~~schools~~] that have

212 resulted in at least 80% of students performing at grade level in STEM areas;

213 (h) identify best practices being used outside the state and, as appropriate, develop and

214 implement selected practices through a pilot program;

215 (i) identify:

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

217 and

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

219 practices;

220 (j) provide a Utah best practices database, including best practices from public

221 education, higher education, the Utah Education Network, and other STEM related entities;

222 (k) keep track of the following items related to the best practices database described in

223 Subsection (2)(j):

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

225 (ii) how many individuals are using the database, including the demographics of the

226 users, if available;

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

228 (m) identify performance changes linked to use of the best practices database described

229 in Subsection (2)(j);

230 (n) work cooperatively with the State Board of Education to designate schools as

231 STEM schools, where the schools have agreed to adopt a plan of STEM implementation in

232 alignment with criteria set by the State Board of Education and the board;

233 (o) support best methods of high quality professional development[;] for STEM

234 education in kindergarten through grade 12, including methods of high quality professional

235 development that reduce cost and increase effectiveness, to help educators learn how to most

236 effectively implement best practice learning tools in classrooms;

237 (p) recognize a high school's achievement in the STEM competitions, fairs, and camps

238 described in Subsection (2)(d);

239 (q) send student results from STEM competitions, fairs, and camps described in

240 Subsection (2)(d) to media and ask the media to report on them;

241 (r) develop and distribute STEM [~~toolkits~~] information to parents of students being

242 served by the STEM Action Center;



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

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

246 [~~(ii) targeted instruction for students who traditionally avoid enrolling in STEM  
247 courses;~~]

248 [~~(iii) introduction of engaging engineering courses; and~~]

249 (ii) use of applied instruction; and

250 [~~(iv)~~] (iii) introduction of other research-based methods that support student

251 achievement in STEM areas; and

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

253 (i) public education students; and

254 (ii) higher education students.

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

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

260 (i) public education high school graduation rates;

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

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

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

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

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

271 **63M-1-3205. Acquisition of STEM education related instructional technology**  
272 **program -- Research and development of education related instructional technology**  
273 **through a pilot program.**

274 (1) For purposes of this section:

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

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

278 (2) (a) There is created the STEM education related instructional technology program  
279 to provide public schools the STEM education related instructional technology described in  
280 Subsection (3).

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

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

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

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

291 (i) kindergarten through grade 6; or

292 (ii) grades 7 and 8; or

293 (b) support mathematics instruction for secondary students to prepare the secondary  
294 students for college mathematics courses.

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

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

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

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

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

- 308 (a) conduct a pilot of the program to test and select providers for the program;
- 309 (b) select at least two providers through a direct award or sole source procurement  
310 process for the purpose of conducting the pilot; and
- 311 (c) select schools to participate in the pilot.

312 (6) (a) A contract with a provider for STEM education related instructional technology  
313 may include professional development for full deployment of the STEM education related  
314 instructional technology.

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

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

319 **63M-1-3207. Report to Legislature and the State Board of Education.**

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

- 322 (a) the Education Interim Committee;
- 323 (b) the Public Education Appropriations Subcommittee; and
- 324 (c) the State Board of Education.

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

- 327 (a) the number of educators receiving high quality professional development;
- 328 (b) the number of students receiving services from the STEM Action Center;
- 329 (c) a list of the providers selected pursuant to this part;
- 330 (d) a report on the STEM Action Center's fulfilment of its duties described in

331 Subsection **63M-1-3204**; and

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

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

335 **63M-1-3208. STEM education endorsements and incentive program.**

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

337 (1) develop STEM education endorsements; and

338 (2) create and implement financial incentives for:

339 (a) an educator to earn an elementary or secondary STEM education endorsement

340 described in Subsection (1); and

341 (b) a school district or a charter school to have STEM endorsed educators on staff.

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

343 **63M-1-3209. Acquisition of STEM education high quality professional**

344 **development.**

345 (1) The STEM Action Center shall, through a request for proposals process, select  
346 technology providers for the purpose of providing a STEM education high quality professional  
347 development application.

348 (2) The high quality professional development application described in Subsection (1)  
349 shall:

350 (a) allow the State Board of Education, a school district, or a school to define the  
351 application's input and track results of the high quality professional development;

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

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

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

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

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

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

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

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

363 (3) In addition to the high quality professional development application described in

364 Subsections (1) and (2), the STEM Action Center may create STEM education hybrid or

365 blended high quality professional development that allows for face-to-face applied learning.

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

367 **63M-1-3210. STEM education middle school applied science initiative.**

368 (1) The STEM Action Center shall develop an applied science initiative for students in  
369 grades 7 and 8 that includes:

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

371 (b) STEM hybrid or blended high quality professional development that allows for  
372 face-to-face applied learning; and

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

374 (2) The STEM Action Center may, through a request for proposals process, select a  
375 consultant to assist in developing the initiative described in Subsection (1).

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

377 **63M-1-3211. High school STEM education initiative.**

378 (1) Subject to legislative appropriations, after consulting with State Board of Education  
379 staff, the STEM Action Center shall award grants to school districts and charter schools to fund  
380 STEM related certification for high school students.

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

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

386 (i) prepare high school students to be job ready for available STEM related positions of  
387 employment; and

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

390 (3) A school district or charter school may partner with one or more of the following to  
391 provide a STEM related certification program:

392 (a) a Utah College of Applied Technology college campus;

393 (b) Salt Lake Community College;

394 (c) Snow College; or

395 (d) a private sector employer.

396 Section 11. **Appropriation.**

397 Under the terms and conditions of Title 63J, Chapter 1, Budgetary Procedures Act, for

398 the fiscal year beginning July 1, 2014, and ending June 30, 2015, the following sums of money  
399 are appropriated from resources not otherwise appropriated, or reduced from amounts  
400 previously appropriated, out of the funds or accounts indicated. These sums of money are in  
401 addition to any amounts previously appropriated for fiscal year 2015.

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

403 From General Fund \$10,000,000

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

405 Schedule of Programs:

406 STEM Action Center \$23,500,000

407 The Legislature intends that:

408 (1) up to \$5,000,000 of the appropriation for the STEM Action Center program be used  
409 for STEM education related instructional technology and related professional development to  
410 support mathematics instruction as described in Subsection [63M-1-3205\(3\)\(a\)\(i\)](#) and Section  
411 [63M-1-3206](#), and related assessment, data collection, analysis, and reporting;

412 (2) up to \$5,000,000 of the appropriation for the STEM Action Center program be used  
413 for developing the STEM education endorsements and related incentive program described in  
414 Section [63M-1-3208](#);

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

418 (4) up to \$3,500,000 of the appropriation for the STEM Action Center program be used  
419 to fund the STEM education middle school applied science initiative described in Section  
420 [63M-1-3210](#);

421 (5) up to \$5,000,000 of the appropriation for the STEM Action Center program be used  
422 to fund the high school STEM education initiative described in Section [63M-1-3211](#);

423 (6) the appropriations described in Subsections (1), (4), and (5):

424 (a) are one-time; and

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

426 (7) the appropriations described in Subsections (2) and (3):

427 (a) are ongoing; and

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

429 Section 12. **Effective date.**

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

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