

Senator Stephen H. Urquhart proposes the following substitute bill:

**SCIENCE, TECHNOLOGY, ENGINEERING, AND
MATHEMATICS ACTION CENTER**

2013 GENERAL SESSION

STATE OF UTAH

Chief Sponsor: Val L. Peterson

Senate Sponsor: Stephen H. Urquhart

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22	Richard A. Greenwood	Lee B. Perry	Brad R. Wilson

23 _____
24 **LONG TITLE**



25 **General Description:**

26 This bill creates educational programs for science, technology, engineering, and
27 mathematics (STEM).

28 **Highlighted Provisions:**

29 This bill:

30 ▶ creates a Science, Technology, Engineering, and Mathematics (STEM) Action
31 Center Board;

32 ▶ requires the STEM Action Center Board to:

- 33 • establish a STEM Action Center; and
- 34 • appoint an executive director to oversee administration of the STEM Action

35 Center;

36 ▶ requires the Governor's Office of Economic Development to staff the STEM Action
37 Center Board and the STEM Action Center;

38 ▶ requires the STEM Action Center Board to select providers, through a request for
39 proposals process, to provide education related instructional technology;

40 ▶ requires the STEM Action Center Board to work with private industry to obtain
41 private funding and support for the STEM Action Center;

42 ▶ as funding allows, requires the STEM Action Center Board to perform certain
43 duties related to the STEM Action Center;

44 ▶ requires the executive director to track student achievement and progress in STEM
45 areas;

46 ▶ requires the STEM Action Center Board to report to the Education Interim
47 Committee, the Public Education Appropriations Subcommittee, and the State
48 Board of Education once each year;

49 ▶ creates the STEM education related technology program;

50 ▶ allows the State Board of Education staff and STEM Action Center staff to award
51 STEM education related instructional technology and related professional
52 development to school districts and charter schools for instructional technology for
53 STEM related education if certain conditions are met;

54 ▶ specifies criteria to consider in selecting STEM education related instructional
55 technology;

56 ▶ provides that certain education related instructional technology may be acquired
57 through a direct award or sole source procurement process for purposes of
58 conducting a pilot; and

59 ▶ eliminates certain duties of the State Advisory Council on Science and Technology
60 related to science and technology fairs and camps.

61 **Money Appropriated in this Bill:**

62 This bill appropriates in fiscal year 2014:

63 ▶ to Governor's Office of Economic Development - STEM Action Center, as an
64 ongoing appropriation:

65 • from the General Fund, \$1,500,000; and

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

68 • from the General Fund, \$8,500,000.

69 **Other Special Clauses:**

70 This bill provides an effective date.

71 **Utah Code Sections Affected:**

72 AMENDS:

73 **63M-1-608**, as renumbered and amended by Laws of Utah 2008, Chapter 382

74 ENACTS:

75 **63M-1-3201**, Utah Code Annotated 1953

76 **63M-1-3202**, Utah Code Annotated 1953

77 **63M-1-3203**, Utah Code Annotated 1953

78 **63M-1-3204**, Utah Code Annotated 1953

79 **63M-1-3205**, Utah Code Annotated 1953

80 **63M-1-3206**, Utah Code Annotated 1953

81 **63M-1-3207**, Utah Code Annotated 1953



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

84 Section 1. Section **63M-1-608** is amended to read:

85 **63M-1-608. Science education program.**

86 (1) (a) There is established an informal science and technology education program

87 within the Governor's Office of Economic Development.

88 (b) The state science advisor shall act as the executive director of the program.

89 (c) The State Advisory Council on Science and Technology shall advise the program,
90 including:

91 (i) approving all money expended by the science and technology education program;

92 (ii) approving all operations of the program; and

93 (iii) making policies and procedures to govern the program.

94 (2) The program may:

95 (a) provide informal science and technology-based education to elementary and
96 secondary students;

97 (b) expose public education students to college level science and technology
98 disciplines; and

99 [~~(c) administer a science and technology camp program; and~~]

100 [~~(d)~~] (c) provide other informal promotion of science and technology education in
101 [this] the state[, ~~including the direct sponsorship of science fairs and science olympiads~~].

102 [~~(3) The science and technology camp program described under Subsection (2)(c) shall~~
103 ~~be:~~]

104 [~~(a) provided exclusively for elementary and secondary students and their teachers;~~]

105 [~~(b) established as a grant program for camp providers; and~~]

106 [~~(c) administered based upon annual requests for proposals, a documented review~~
107 ~~process, and grant awards.~~]

108 Section 2. Section **63M-1-3201** is enacted to read:

109 **Part 32. Science, Technology, Engineering, and Mathematics Action Center**
110 **63M-1-3201. Definitions.**

111 As used in this part:

112 (1) "Board" means the STEM Action Center Board created in Section 63M-1-3202.

113 (2) "Educator" has the meaning defined in Section 53A-6-103.

114 (3) "Office" means the Governor's Office of Economic Development.

115 (4) "Provider" means a provider, selected by staff of the board and staff of the Utah
116 State Board of Education, on behalf of the board:

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

118 (b) through a direct award or sole source procurement process for a pilot described in
119 Section 63M-1-3205.

120 (5) "STEM" means science, technology, engineering, and mathematics.

121 (6) "STEM Action Center" means the center described in Section 63M-1-3204.

122 Section 3. Section **63M-1-3202** is enacted to read:

123 **63M-1-3202. STEM Action Center Board creation -- Membership.**

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

126 (a) five private sector members who represent business, appointed by the governor;

127 (b) the state superintendent of public instruction or the state superintendent of public
128 instruction's designee;

129 (c) the commissioner of higher education or the commissioner of higher education's
130 designee;

131 (d) one member appointed by the governor;

132 (e) a member of the State Board of Education, chosen by the chair of the State Board of
133 Education;

134 (f) the executive director of the Governor's Office of Economic Development or the
135 executive director of the Governor's Office of Economic Development's designee; and

136 (g) the president of the Utah College of Applied Technology or the president of the
137 Utah College of Applied Technology's designee.

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

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

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

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

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

148 (3) Attendance of a simple majority of the members constitutes a quorum for the

149 transaction of official committee business.

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

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

153 (a) Section 63A-3-106;

154 (b) Section 63A-3-107; and

155 (c) rules made by the Division of Finance pursuant to Sections 63A-3-106 and
156 63A-3-107.

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

158 (7) The executive director of the Governor's Office of Economic Development or the
159 executive director of the Governor's Office of Economic Development's designee shall serve as
160 the vice chair of the board.

161 (8) The state science advisor described in Section 63M-1-606 and the office shall
162 provide staff support to the board.

163 Section 4. Section **63M-1-3203** is enacted to read:

164 **63M-1-3203. STEM Action Center Board -- Duties.**

165 (1) The board shall:

166 (a) establish a STEM Action Center program to:

167 (i) coordinate STEM activities in the state among the following stakeholders:

168 (A) the State Board of Education;

169 (B) school districts and charter schools;

170 (C) the State Board of Regents;

171 (D) institutions of higher education;

172 (E) parents of home-schooled students; and

173 (F) other state agencies;

174 (ii) align public education STEM activities with higher education STEM activities; and

175 (iii) create and coordinate best practices among public education and higher education;

176 (b) with the consent of the Senate, appoint an executive director to oversee the
177 administration of the STEM Action Center;

178 (c) select a physical location for the STEM Action Center;

179 (d) strategically engage industry and business entities to cooperate with the board:

180 (i) to support professional development and provide other assistance for educators and
181 students; and

182 (ii) to provide private funding and support for the STEM Action Center;

183 (e) give direction to the STEM Action Center and the providers selected through a
184 request for proposals process pursuant to this part; and

185 (f) work to meet the following expectations:

186 (i) that at least 50 educators are implementing best practice learning tools in
187 classrooms per each product specialist or manager working with the STEM Action Center;

188 (ii) performance change in student achievement in each classroom working with a
189 STEM Action Center product specialist or manager; and

190 (iii) that students from at least 50 high schools participate in the STEM competitions,
191 fairs, and camps described in Subsection 63M-1-3204(2)(d).

192 (2) The board may:

193 (a) enter into contracts for the purposes of this part;

194 (b) apply for, receive, and disburse funds, contributions, or grants from any source for
195 the purposes set forth in this part;

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

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

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

201 Section 5. Section **63M-1-3204** is enacted to read:

202 **63M-1-3204. STEM Action Center Program.**

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

204 (a) establish a STEM Action Center;

205 (b) ensure that the STEM Action Center:

206 (i) is accessible by the public; and

207 (ii) includes the components described in Subsection (2);

208 (c) work cooperatively with the State Board of Education to acquire technology and
209 select schools as described in Sections 63M-1-3205 and 63M-1-3206; and

210 (d) engage private entities to provide financial support or employee time for STEM

211 activities in schools in addition to what is currently provided by private entities.
212 (2) As funding allows, the executive director of the STEM Action Center shall:
213 (a) support professional development for educators regarding education related
214 instructional technology that supports STEM education;
215 (b) ensure that the STEM Action Center acts as a research and development center for
216 education related instructional technology acquired through a request for proposals process
217 described in Section 63M-1-3205;
218 (c) review and acquire STEM education related technology for:
219 (i) educator professional development;
220 (ii) assessment, data collection, analysis, and reporting; and
221 (iii) public school instruction;
222 (d) facilitate participation in interscholastic STEM related competitions, fairs, and
223 camp;
224 (e) engage private industry in the development and maintenance of the STEM Action
225 Center;
226 (f) use resources to bring the latest STEM education learning tools into public
227 education classrooms;
228 (g) identify at least 10 best practice innovations used in Utah schools that have resulted
229 in at least 80% of students performing at grade level in STEM areas;
230 (h) identify best practices being used outside the state and implement selected practices
231 through a pilot program;
232 (i) identify:
233 (i) three learning tools for kindergarten through grade 6 identified as best practices; and
234 (ii) three learning tools per STEM subject for grades 7 through 12 identified as best
235 practices;
236 (j) provide a Utah best practices database, including best practices from public
237 education, higher education, the Utah Education Network, and other STEM related entities;
238 (k) keep track of the following items related to the best practices database described in
239 Subsection (2)(j):
240 (i) how the best practices database is being used; and
241 (ii) how many individuals are using the database, including the demographics of the

242 users, if available;

243 (l) join and participate in a national STEM network;

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

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

249 (o) support best methods of professional development, including methods of
250 professional development that reduce cost and increase effectiveness, to help educators learn
251 how to most effectively implement best practice learning tools in classrooms;

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

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

256 (r) develop and distribute STEM toolkits to parents of students being served by the
257 STEM Action Center;

258 (s) support targeted professional development for improved instruction in STEM in
259 grades 6, 7, and 8, including:

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

261 (ii) targeted instruction for students who traditionally avoid enrolling in STEM
262 courses;

263 (iii) introduction of engaging engineering courses; and

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

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

267 (i) public education students; and

268 (ii) higher education students.

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

271 (4) (a) The executive director shall track and compare the student performance of
272 students participating in a STEM Action Center program to all other similarly situated students

273 in the state, in the following STEM related activities, at the beginning and end of each year:

274 (i) public education high school graduation rates;

275 (ii) the number of students taking a remedial mathematics course at an institution of
276 higher education described in Section 53B-1-102;

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

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

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

284 Section 6. Section **63M-1-3205** is enacted to read:

285 **63M-1-3205. Acquisition of STEM education related instructional technology**
286 **program -- Research and development of education related instructional technology**
287 **through a pilot program.**

288 (1) For purposes of this section:

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

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

292 (2) (a) There is created the STEM education related instructional technology program
293 to provide public schools the STEM education related instructional technology described in
294 Subsection (3).

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

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

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

304 (a) support mathematics instruction for students in grade 6, 7, or 8; or
305 (b) support mathematics instruction for secondary students to prepare the secondary
306 students for college mathematics courses.

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

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

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

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

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

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

321 (b) select at least two providers through a direct award or sole source procurement
322 process for the purpose of conducting the pilot; and

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

324 (6) (a) A contract with a provider for STEM education related instructional technology
325 may include professional development for full deployment of the STEM education related
326 instructional technology.

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

330 Section 7. Section **63M-1-3206** is enacted to read:

331 **63M-1-3206. Grants to schools for STEM education instructional technology.**

332 (1) Subject to legislative appropriations, on behalf of the board, the staff of the board
333 and the staff of the State Board of Education shall collaborate and shall:

334 (a) distribute STEM education related instructional technology described in Section

335 63M-1-3205 to school districts and charter schools; and

336 (b) provide related professional development to the school districts and charter schools
337 that receive STEM education related instructional technology.

338 (2) A school district or charter school may apply to the board, through a competitive
339 process, to receive STEM education related instructional technology from the board.

340 (3) A school district or charter school that receives STEM education related
341 instructional technology as described in this section shall provide the school district's or charter
342 school's own computer hardware.

343 Section 8. Section **63M-1-3207** is enacted to read:

344 **63M-1-3207. Report to Legislature and the State Board of Education.**

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

347 (a) the Education Interim Committee;

348 (b) the Public Education Appropriations Subcommittee; and

349 (c) the State Board of Education.

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

352 (a) the number of educators receiving professional development;

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

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

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

357 (e) student performance of students participating in a STEM Action Center program as
358 collected in Subsection 63M-1-3204(5).

359 Section 9. **Appropriation.**

360 Under the terms and conditions of Title 63J, Chapter 1, Budgetary Procedures Act, for
361 the fiscal year beginning July 1, 2013, and ending June 30, 2014, the following sums of money
362 are appropriated from resources not otherwise appropriated, or reduced from amounts
363 previously appropriated, out of the funds or accounts indicated. These sums of money are in
364 addition to any amounts previously appropriated for fiscal year 2014.

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

366 From General Fund \$1,500,000

367 From General Fund, one-time \$8,500,000

368 Schedule of Programs:

369 STEM Action Center \$10,000,000

370 The Legislature intends that:

371 (1) up to \$1,500,000 of the appropriation for STEM Action Center be used to establish
372 a STEM Action Center as described in Section 63M-1-3204;

373 (2) at least \$5,000,000 of the appropriation for STEM Action Center be used for STEM
374 education related instructional technology and related professional development to support
375 mathematics instruction for students in grades 6, 7, or 8 as described in Subsection
376 63M-1-3205(3)(a) and Section 63M-1-3206, and related assessment, data collection, analysis,
377 and reporting;

378 (3) at least \$3,500,000 of the appropriation for STEM Action Center be used for STEM
379 education related instructional technology and related professional development to support
380 mathematics instruction for secondary students to prepare the secondary students for college
381 mathematics courses as described in Subsection 63M-1-3205(3)(b) and Section 63M-1-3206,
382 and related assessment, data collection, analysis, and reporting;

383 (4) that the appropriation described in Subsection (1):

384 (a) be ongoing; and

385 (b) not lapse at the close of fiscal year 2014; and

386 (5) that the appropriations described in Subsections (2) and (3):

387 (a) be one-time; and

388 (b) not lapse at the close of fiscal year 2014.

389 **Section 10. Effective date.**

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

394 (2) Uncodified Section 9, Appropriation, takes effect on July 1, 2013.