

CURIOSITY UNLEASHED



ACTION CENTER

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# STEM Action Center and the Trades

\$2,485,000 invested in grants:

- Bear River Consortium (Cache, Box Elder and Rich)
  - ✓ Automated manufacturing
- Pathways to Manufacturing Consortium (Granite, Canyons, Jordan, Salt Lake City, Murray, Tooele)
- SOAR (Ogden)
  - ✓ Advanced Composites Manufacturing
- Phase Two Tooele and Tooele ATC Pathway Project
  - ✓ Welding and Manufacturing
- AM STEM (Washington)
  - ✓ Advanced Manufacturing and Construction Technology
- Corporate Connections Consortium (Carbon, San Juan, Emery and Grand)
  - ✓ Manufacturing

# STEM Action Center and the Trades

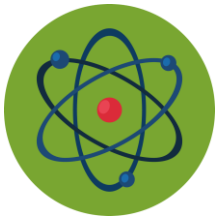
- Davis Applied Technology Center
  - ✓ Industrial Injection Molding Program
- Utah Manufacturing Association
  - ✓ Shared Liaison
- Utah Women in the Trades
- Mobile STEM Classroom

# STEM Action Center



## **Mission:**

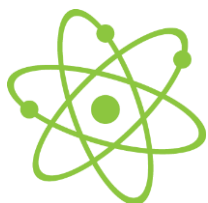
The STEM Action Center is Utah's leader in promoting science, technology, engineering and math through best practices in education to ensure connection with industry and Utah's long-term economic prosperity.



## **Vision:**

- Produce a STEM-competitive workforce to ensure Utah's continued economic success in the global marketplace.
- Catalyze student experience, community engagement and industry alignment by identifying and implementing the public- and higher-education best practices that will transform workforce development.

# Elements of Strategic Plan



- Proficiency in STEM subjects
- High quality professional learning
- Engaged, problem-based learning
- Outreach, recruitment and retention in STEM pathways
- Align education and workforce needs
- Advocate for and promote STEM
- Leverage resources for STEM efforts
- Facilitate Coordination and Collaboration

# Private Public Partnerships (HB139; 63M-1-3204)

Statutory (funding)	Actions	Impact	Outcomes
HB150 63M-1-3203	Utah STEM Foundation	<ul style="list-style-type: none"> <li>• \$1,657,000 donated</li> <li>• \$42,500 pending</li> <li>• \$300,000 in kind</li> </ul>	<ul style="list-style-type: none"> <li>• Increased private contributions</li> <li>• Effective leveraging of resources</li> </ul>
HB150 63M-1-3204	STEM MX	<ul style="list-style-type: none"> <li>• Mobile app to match needs to resources</li> <li>• Approx \$400,00 In kind</li> </ul>	<ul style="list-style-type: none"> <li>• Greater access to resources</li> <li>• Connecting industry to parents, teachers and counselors</li> </ul>
HB139 63M-1-3204	STEM for Life	<ul style="list-style-type: none"> <li>• Four educator cohorts</li> <li>• Cross-curricular modules using health, sports, medicine as foundation for STEM concepts</li> <li>• IHC (\$200,000)</li> </ul>	<ul style="list-style-type: none"> <li>• Increased connection of education pathway with careers</li> </ul>

# Educator Impact

Statutory (funding)	Actions	Impact	Outcomes
HB150 63M-1-3209 (\$5M ongoing FY14 and FY15; \$4.6M FY17)	Professional Learning Project (video-based, online platform)	<ul style="list-style-type: none"> <li>• 17,356 teachers with access</li> <li>• 100 STEM videos created</li> <li>• 78 grants funded</li> </ul>	<ul style="list-style-type: none"> <li>• Improved classroom management</li> <li>• Increased confidence in STEM instruction</li> </ul>
HB150 63M-1-3208 (\$1.5M one time)	Elementary STEM endorsement	<ul style="list-style-type: none"> <li>• 332 educators in cohort</li> <li>• 7 Institutions of Higher Education partnering</li> </ul>	<ul style="list-style-type: none"> <li>• Greater awareness of STEM</li> <li>• Improved integration of STEM across curriculum</li> <li>• Creation of peer networks</li> </ul>
HB139 63M-1-3203	Code.org	<ul style="list-style-type: none"> <li>• 85 educators</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing number of Computer Science teachers</li> </ul>
HB150 63M-1-3210 (\$3.5M one time)	Applied Science	<ul style="list-style-type: none"> <li>• 30 Career and Tech teachers (IT and engineering)</li> </ul>	<ul style="list-style-type: none"> <li>• Increase access to hands on, applied learning for students</li> <li>• Enhance problem-based learning</li> </ul>
HB139 63M-1-3203	Best Practices Conference	<ul style="list-style-type: none"> <li>• 400+ educators; 12 states, 20 LEAs, 84 schools</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance sharing of best practices</li> <li>• Support best practices database</li> </ul>

# Student Impact

Statutory (funding)	Action	Impacts	Outcomes
HB150 63M-1-3205 (\$13.5M onetime; \$3M on-going 2016 session)	Digital Math Tools	<ul style="list-style-type: none"> <li>• 180,707 students with access (78 LEAs; 523 schools)</li> <li>• 9 learning tools</li> <li>• 90% overall; 47% at fidelity</li> </ul>	<ul style="list-style-type: none"> <li>• Increased proficiency at grade level</li> <li>• Improved ability for real time assessment and responsiveness</li> <li>• Personalized learning</li> </ul>
HB139 63M-1-3204 (\$217,740 operational)	Fairs, Camps and Competitions Grants	<ul style="list-style-type: none"> <li>• 1,113 students</li> </ul>	<ul style="list-style-type: none"> <li>• Greater access to activities and events</li> </ul>
HB139 63M-1-3204 (\$77,270 operational)	Classroom Grants	<ul style="list-style-type: none"> <li>• 9,883 students</li> </ul>	<ul style="list-style-type: none"> <li>• Increased resources in classrooms</li> <li>• Increased direct support of educators</li> </ul>
HB139 63M-1-3204 (\$30,425 operational)	Organization Grants	<ul style="list-style-type: none"> <li>• 4,519 students</li> </ul>	<ul style="list-style-type: none"> <li>• Increased statewide access for students</li> </ul>



# Student Impact

Statutory (funding)	Action	Impacts	Outcomes
HB150 63M-1-3211 (\$4M one time)	High School STEM Certification	<ul style="list-style-type: none"> <li>6,919 students participants</li> <li>4,791 certified</li> <li>639 completed internships</li> </ul>	<ul style="list-style-type: none"> <li>Greater access to jobs</li> <li>Increased competency</li> <li>Improved linkage to company partners</li> </ul>
HB139 63M-1-3204	STEM Assembly Program (STEM Magic Show)	<ul style="list-style-type: none"> <li>2,255 elementary students</li> <li>750 students/show/ x 35 shows = 26,000+ students</li> </ul>	<ul style="list-style-type: none"> <li>Increased student awareness</li> </ul>
HB139 63M-1-3204 (\$17,251 operational)	Utah STEMFest	<ul style="list-style-type: none"> <li>17,000+ students; 3,500 families</li> <li>78 LEAs</li> <li>51 bus scholarships</li> </ul>	<ul style="list-style-type: none"> <li>Increased student awareness</li> <li>Greater connection to careers</li> </ul>
HB139 63M-1-3204 (\$64,470 operational)	Sponsorships	26 events; 63,320 students	Increased opportunity and access for students

# Additional Points of Impact

Statutory (funding)	Action	Impact	Outcomes
HB139 63M-1-3204	Public awareness	<ul style="list-style-type: none"> <li>Website: 106,517 page views; 33,325 new users; 47,271 sessions</li> <li>Social media: Facebook(1,020); Twitter (685); Instagram (150), LinkedIn (122); Google+ (16)</li> <li>111% increase</li> <li>Low bounce rate</li> </ul>	<ul style="list-style-type: none"> <li>Greater awareness</li> <li>Higher use of resources</li> </ul>
HB139 63M-1-3204	STEM School Designation	<ul style="list-style-type: none"> <li>FY16: 19 schools awarded designation</li> <li>FY17: 15 have indicated that they will apply</li> </ul>	<ul style="list-style-type: none"> <li>Integration of best practices</li> <li>Recognition of exemplary schools</li> </ul>
(\$20,000 operational funds)	Internal Audit	<ul style="list-style-type: none"> <li>Report with findings and recommendations</li> </ul>	<ul style="list-style-type: none"> <li>Improved operational and process</li> <li>Increased effectiveness in monitoring impact</li> </ul>

# Additional Points of Impact

Statutory (funding)	Action	Impact	Outcomes
HB139 63M-1-3203	Mobile STEM Classroom	<ul style="list-style-type: none"> <li>• Two donated busses</li> <li>• Over \$1.5M in grant donations</li> </ul>	<ul style="list-style-type: none"> <li>• Outreach and access for all Utah students</li> <li>• Engaged, place-based learning opportunities</li> <li>• Awareness of Utah technologies and companies</li> </ul>
HB139 63M-1-3204	National Awareness	<ul style="list-style-type: none"> <li>• Education Commission for the States Policymakers' STEM Playbook</li> <li>• National Conference for State Legislatures</li> <li>• White House presentations</li> <li>• Idaho STEM Action Center</li> </ul>	<ul style="list-style-type: none"> <li>• Greater awareness of Utah's investment in STEM</li> <li>• Adoption of Utah's models</li> </ul>

# Next Steps: K-16 Computing Pathway Initiative

Statutory (funding)	Action	Impact	Outcomes
HB139 63M-1-3204 (\$1M in one time carryover)	K-16 Computing Pathway Initiative	<ul style="list-style-type: none"> <li>• Pilot with one time funding from STEM AC</li> <li>• Industry led</li> <li>• Professional development:               <ul style="list-style-type: none"> <li>(a) SB93 endorsement support (\$400,000)</li> <li>(b) code.org grant (approx. \$160,000)</li> </ul> </li> <li>• K-8 Curriculum:               <ul style="list-style-type: none"> <li>CREATE Labs grant (Infosys and Carnegie Mellon University; \$200,000)</li> </ul> </li> <li>• Recruitment and retention for under-represented students:               <ul style="list-style-type: none"> <li>(a) STEM Equity Pipeline grant (UVU; \$40,000)</li> <li>(b) Hill Air Force Base contribution (\$253,730)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Increase access to computing courses</li> <li>• Increase out-of-school opportunities</li> <li>• Address educator shortage</li> <li>• Increase enrollments for under-represented populations</li> <li>• Cross-disciplinary K-8 curriculum</li> <li>• K-16 pathways with stacked credentials</li> </ul>