# **ADVANCE CTE EXCELLENCE IN ACTION AWARD**

**PROGRAM SUMMARY**

Advance CTE is pleased to announce a call for applications for the sixth annual Excellence in Action awards, through which we recognize and honor superior Career Technical Education (CTE) programs of study from across the nation.   
  
**CRITERIA FOR JUDGING**

Selected programs will exemplify excellence in:

* Implementing Career Cluster®-based [programs of study](https://careertech.org/programs-study);
* Maintaining effective employer and business partnerships;
* Demonstrating alignment to rigorous and relevant college- and career-ready expectations;
* Demonstrating a clear progression of knowledge and skills and learner transitions across secondary and postsecondary systems;
* Integrating successful career guidance and advisement;
* Integrating high-quality work-based learning experiences;
* Highlighting alignment to workforce and employer needs in the community;
* Providing concrete data on the program of study’s impact on learner achievement, success at both the secondary and postsecondary levels and meeting the needs of underserved populations; and
* Delivering high-quality and effective instruction.

**ELIGIBILITY**

* This award is open to any public secondary or postsecondary schools or colleges in the United States. Your school or institution may submit one application per [Career Cluster](http://careertech.org/career-clusters);
* The program of study must have at least one full graduating class;
* Your program must be eligible to receive funding from the Carl D. Perkins Career and Technical Education Act;
* Applications that do not include data to demonstrate positive impact on learner achievement will not be eligible for consideration.
* If your program has received in an Excellence in Action award from Advance CTE in the past, you may not apply for that same Career Cluster. However, your school or institution may apply in a different Career Cluster.

**AWARD SUBMISSION REQUIREMENTS**

Complete applications will contain the following:

* A completed application including supplemental materials by the application deadline of **November 21, 2018 at 5 p.m. ET.**
* At least one letter of support from an employer or business partner supporting the program of study; and
* At least one additional letter of support from a partner (education, community or business) of your choosing.
* *Optional:* Supplemental materials including photos, videos, news articles, etc., are welcome but not required.

The application must be submitted using [this form](https://careertech.org/2019-excellence-action-application). The application must be submitted in a Microsoft Word format. Supplemental materials, including the letters of recommendation, must be combined and submitted as **one** PDF document.

*Please note:*

* Submissions should **not** include any personally identifiable learner data.
* The application does not have a page limit, however, many questions do have a word limit. Please do not submit responses that go beyond this limit. Also, submissions that do not contain all the required materials (a completed application, two letters of support and supplemental materials in the correct formats) will not be advanced for consideration.

**WINNERS WILL RECEIVE**

* A banner to hang in their school or institution;
* A digital banner to use in email and print materials as they so choose;
* Travel and one hotel room for one night in Washington, DC for a representative to be recognized at an awards ceremony to be held the week of April 8-10, 2019 at the Advance CTE Spring Meeting; and
* Discounted rate to the Advance CTE Spring Meeting

**WINNERS WILL ALSO BE FEATURED IN**

* A national press release, which will be distributed to national media.
* A winner-specific press release to distribute to local media;
* A standalone one-pager;
* A standalone blog on the [Learning that Works blog](http://blog.careertech.org/);
* Representation on the Advance CTE [website](http://www.careertech.org).
* Many past winners have been featured in national conferences, in briefs and reports, on webinars and in the media.

**HOW TO APPLY**

* Fill out the following application.
* Once you have finished, complete [this form](https://careertech.org/2019-excellence-action-application) and upload the following:
* Your full application saved as a Word document (.docx)
* All of your supplemental documents or evidence consolidated as one PDF document.

# **BACKGROUND INFORMATION**

1. Program of study name: Bear River Automated Manufacturing STEM (AM STEM)
2. Point of Contact

Name: John Davidson

Email Address: jdavidson@btech.edu

Phone Number: (435) 750-3126  
Address: 1301 North 600 West, Logan, UT 84321

1. Applicant’s School/College: Bridgerland Technology College
2. State:Utah
3. Type of institution (click the box to check)

☐ Area technical center

☐ Career academy

☐ Comprehensive high school

☐ Community college

☐X Technical college

Other (please specify)

|  |
| --- |
|  |

1. Career Cluster in which your program of study should be considered (Follow this link for a further explanation of each Career Cluster [careertech.org/career-clusters](http://careertech.org/career-clusters)) **(Select only ONE):**

☐ Agriculture, Food & Natural Resources Career Cluster

☐ Architecture & Construction Career Cluster

☐ Arts, A/V Technology & Communications Career Cluster

☐ Business Management & Administration Career Cluster

☐ Education & Training Career Cluster

☐ Finance Career Cluster

☐ Government & Public Administration Career Cluster

☐ Health Sciences Career Cluster

☐ Hospitality & Tourism Career Cluster

☐ Human Services Career Cluster

☐ Information Technology Career Cluster

☐ Law, Public Safety, Corrections & Security Career Cluster

☐X Manufacturing Career Cluster

☐ Marketing Career Cluster

☐ Science, Technology, Engineering & Mathematics Career Cluster

☐ Transportation, Distribution & Logistics Career Cluster

1. In three sentences or less, describe your program of study, including the secondary and postsecondary components and how long the program of study has been in place.

The Automated Manufacturing STEM (AM STEM) program is a cooperative effort involving over a dozen industry partners, Bridgerland Technical College, Utah State University, and Cache, Logan, and Rich secondary school districts. Initial efforts to create a program to produce a greater number of employees working in all aspect of Automated Manufacturing was begun in 2014. Industry representatives from multiple companies in Northern Utah approached education and asked what could be done. The Education Partners worked with the Industry Partners to create a list of the specific skills potential employees would need to have to be considered for employment.

1. Please check the geographical and demographic setting for your program of study and describe the geographic and economic conditions of the region served by the school.

☐ Urban

☐ Suburban

☐X Rural

☐ Other

1. Please describe how your program of study was developed and how it ensures learners are academically and technically prepared for both postsecondary education and careers. Please also address the following:
   1. How were employers involved in the development and continue to be involved in the maintenance of your program of study?
   2. How does this program of study meet the economic needs of your community?
   3. How does this program prepare learners for postsecondary education? (if applicable)
   4. How were both secondary and postsecondary educators involved in the development and/or maintenance of the program of study? (500 word limit)

The Automated Manufacturing STEM (AM STEM) program is a cooperative effort begun in 2014 which involves a partnership between Industry, Higher Education, and Secondary Education. It is a sustained effort to produce a greater number of employees working in all aspect of Automated Manufacturing. Industry representatives from companies in Northern Utah (including Autoliv, Boeing, DuPont, Inovar, Mom Brands, Newcorp Steel, Pepperidge Farm, Prismview, Setpoint, Schreiber, and Thermal Fisher Scientific) approached Education (Bridgerland Technology College, Utah State University, and Cache, Logan, Box Elder, & Rich School Districts) asking what could be done. The Industry partners worked with the Education partners to create a list of the specific skills potential employees would need to qualify for employment. Those requirements where then used to create course standards and a program of study. The curriculum that has been subsequently developed is based on those industry-defined standards.

Education reviewed the existing programs to determine what could be used and what needed to be added. Every effort was made to eliminate duplication between high school CTE courses and the technical college. High school courses fulfill the technical college course requirements whenever possible.

"Zero hour" courses were established in each of the eight high schools in the region. Initially, instruction was delivered via Utah Education Network's distance learning network. Teachers at Bridgerland Technical College (BTech) offered direct instruction in a daily broadcast prior to the beginning of the traditional school day. Teachers served as facilitators and worked alongside the students as they developed their own knowledge. As the program developed, the instruction was recorded and made available to students on Canvas.

Students, in teams of 4, use equipment developed by BTech referred to as "trainers". Each trainer costs approximately $10k. Enrollment caps are mainly driven by equipment availability.

Rather than broadcasting a daily lecture, the classrooms have now been flipped. Daily broadcasts are now being used to answer questions and to help troubleshoot issues students may encounter with a project. The work is "hands on", but assignments are submitted to BTech by each student for evaluation by uploading a video presentation of their work made using their personal devices each day.

The third year of the AM STEM program has just been completed.

Plans are underway to replicate the program in three other school districts (Davis School District with Davis Technical College, Ogden School District with Ogden-Weber Technical College, and Tooele School District with Tooele Technical College) using BTech's curriculum and program design.

# **LEARNER POPULATION & DATA**

1. Please describe your program of study’s demographic and outcome data for the most recent academic year(s). It is our strong preference to have data from both secondary and postsecondary levels. If this is not available, please provide an explanation as to why the data from the other learner level is not available. Applications that do not include data to support positive impact on learner achievement will not be eligible for consideration. (100 word limit)

**NOTE**: Please specify if and when you are using a percentage with a different denominator (e.g., seniors) than the one listed.

**When completing the data section, please only use percentages and include data that is from your program of study. Additionally, only include data where learners are eligible to participate (e.g., only seniors in high school will be eligible for the section asking for percent of seniors who graduated high school, so only seniors should be included in that data; if your work-based learning only occurs within a specific grade level, only include them in your data for that category.)**

|  |  |  |  |
| --- | --- | --- | --- |
| SCHOOL YEAR | 2015-16 | 2016-17 | 2017-18 |
| **SECONDARY-LEVEL DATA** | | | |
| **What is the total number of learners served by your school/institution?** | 10,249 | 10,517 | 10,562 |
| What is the total number of minority learners served by your school/institution? | 23 | 18 | 25 |
| What is the total number of low-income learners served by your school/institution? | 17 | 12 | 25 |
| What is the total number of learners with disabilities served by your school/institution? | 1 | 1 | 3 |
| What is the total number of English language learners served by your school/institution? | 6 | 6 | 9 |
| **What is the total number of learners served by your program of study?** | 183 | 187 | 237 |
| % male learners in program of study | 92.90% | 89.30% | 86.92% |
| % female learners in program of study | 6.56% | 5.88% | 10.97% |
| % minority learners program of study | 12.57% | 9.63% | 10.55% |
| % low-income learners program of study | 9.29% | 6.42% | 9.28% |
| % learners with disabilities program of study | 0.55% | 0.53% | 1.27% |
| % English language learners program of study | 3.28% | 3.21% | 3.80% |
| Other relevant *demographic* data from your **program of study** |  |  |  |
| % of learners in program of study who earned postsecondary credit (dual enrollment, AP, etc.) | 72.13% | 78.61% | 62.87% |
| % of learners in program of study who earned an industry-recognized credential | 12.57% | 10.70% | 1.69% |
| % of learners in program of study who participated in work-based learning | NA% | NA% | NA% |
| % of seniors in program of study who graduated high school (who were eligible/seniors) | 59.56% | 62.03% | 67.51% |
| % of graduates in program of study who enrolled in postsecondary education (who were eligible/seniors) | 49% | 44% | 19% |
| % of graduates in program of study who entered the workplace and/or military (who were eligible/seniors) | 5.46% | 2.14% | 0.42% |
| **POSTSECONDARY-LEVEL DATA** | | | |
| **What is the total number of learners served by your school/institution?** | 1391 | 1662 | 1613 |
| What is the total number of minority learners served by your school/institution? | Data not collected | Data not collected | Data not collected |
| What is the total number of low-income learners served by your school/institution? | Data not collected | Data not collected | Data not collected |
| What is the total number of learners with disabilities served by your school/institution? | Data not collected | Data not collected | Data not collected |
| What is the total number of English language learners served by your school/institution? | Data not collected | Data not collected | Data not collected |
| **Total number of learners served by your program of study** | 29 | 50 | 48 |
| % male learners in program of study | Data not collected | Data not collected | Data not collected |
| % female learners in program of study | Data not collected | Data not collected | Data not collected |
| % minority learners in program of study | Data not collected | Data not collected | Data not collected |
| % low-income learners in program of study | Data not collected | Data not collected | Data not collected |
| % learners with disabilities in program of study | Data not collected | Data not collected | Data not collected |
| % English language learners in program of study | Data not collected | Data not collected | Data not collected |
| **Other relevant *demographic* data from your program of study** |  |  |  |
| % of learners in program of study who completed postsecondary/earned a degree or certificate (who were eligible) | 24.14% | 24.00% | 68.75% |
| % of learners in program of study who earned an industry-recognized credential (who were eligible) | 93.10% | 72.00% | 68.75% |
| % of graduates in program of study who entered the workplace and/or military (who were eligible) | 93.10% | 72.00% | 91.67% |
| % of graduates in program of study who transitioned to further postsecondary education (who were eligible) | 6.90% | 6.00% | 12.50% |

1. Provide links to the source of the above data. If the links are not publicly accessible, please explain the source of the data. If you are missing any data, please explain why and how you measure success.

Data provided mainly by Bridgerland Technology College with assistance from each of the 4 LEAs.

1. How does your school or institution ensure equitable access for learners with diverse backgrounds? (150 word limit)

The program is marketed to every member of the community. No pre-requisites or barriers exist to students who wish to enter the program. Implementation of online materials, distributed labs, and distance learning resources have been successfully in removing any barriers related to location.

1. How do you ensure learner success, especially of those who from diverse backgrounds? Please provide examples of what supports you offer learners. (150 word limit)

In contrast with standard online learning models, this program includes a trained, onsite facilitator at each of the distant learning locations. Each of those facilitators participates annually in two week of rigorous training on the curriculum resources. In addition, the BTech faculty has direct contact and meets regularly with the counselors at each high school. A Student Success Coordinator at BTech (who has also been through the program) monitors student progress through the Canvas Learning Management System and Drop-out Detective plug-in. If issues arise with any student who misses assignments or fails to access Canvas on schedule, the Student Success Coordinator meets with one-on-one with students at their schools.

1. Is your program of study associated with a Career Technical Student Organization (CTSO)? If so, which one(s) and in what way(s)? (Check the [approved list](http://www.ctsos.org/ctsos/) of CTSOs) (50 word limit)

TSA has traditionally enjoyed a strong presence in schools throughout the region. Although not a specific feature of the AM STEM program, teachers appreciate the value of a CTSO and continue to integrate TSA activities and objectives with each of their courses. AM STEM projects, Robotics in particular, are completely compatible with TSA competitions. They function in a mutually supportive relationship.

1. Describe how career guidance/advisement is integrated into your program of study to support learners’ completion of the program of study and entry into additional education/training and/or a successful career. Describe how you recruit students into CTE programs. Where applicable, describe the tools (individual career and academic plans, career exploration websites, etc.) that are provided to learners and how they are used. (200 word limit)

Counselors support the program and are instrumental in promoting it, but teacher involvement, strong employment opportunities, and word-of-mouth have proven to be the driving forces. The work done as the program was first developed to define a clear pathway and eliminate duplication has reduced the need for students to rely on traditional career guidance assistance to navigate the system.

1. Which technical, academic and/or employability standards does your program of study incorporate at the secondary and/or postsecondary level and how? (Please list the standards you use and be specific regarding how your program uses industry, national, state and/or locally-developed standards) (250 word limit)

|  |  |
| --- | --- |
| **Standard Types** | **Please list the standards your program of study uses and how it uses them below:** |
| Academic Standards | Utah State Board of Education CORE Standards |
| Career Cluster or Technical Standards | Utah State Board of Education CTE Pathways and Course Standards |
| Employability Standards | Technology & Engineering Program Area Workplace Skills (ref: attached document) |
| Other | The AM STEM program itself is the Industry Standard. |

# **SEQUENCE OF COURSES & CREDIT TRANSFER**

1. Please fill out the chart below, and describe your program of study’s course sequence by grade level, including the relevant or required academic and technical courses, as well as other required activities.   
     
   **Make sure to highlight the course sequence that bridges secondary and postsecondary education.** Explain how your program of study ensures learners gain the broader Career Cluster-level knowledge/skills and, over time, gain the more specific occupation-level knowledge/skills as they progress through the program of study. You can also include graphics or [plans of study](https://cte.careertech.org/sites/default/files/PlanPathways-CareerCluster-AG-AgribusinessSystem.pdf) of the course sequence in lieu of filling out the chart below.

See the attached documents: AM STEM Program of Study.pdf and USU AAS & BS.pdf

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Grade/Year | English/Language Arts | Math | Science | Social Studies/ Sciences | Other Required Courses/Other Electives/Learner Activities | CTE Courses and/or Degree Major Courses |
| **9** | Utah State Board of Education Graduation Requirements |  |  |  | Elective:  Engineering Technology |  |
| **10** |  |  |  |  | Elective:  Computer Programming, Electronics 1, or Industrial Maintenance |  |
| **11** |  |  |  |  |  | Robotics 1 |
| **12** |  |  |  |  | Workplace Skills | Robotics 2 |
| **13** |  |  |  |  |  | Completion of the Automated Manufacturing 900-hour certificate program at Bridgerland Technology College |
| **14** | General Studies work for an Associate Degree at Utah State University |  |  |  |  |  |
| **15** |  |  |  |  |  |  |
| **16** | Bachelor’s Degree completion at Utah State University |  |  |  |  |  |

1. How do you ensure that CTE instruction and coursework is integrated with core academics? Please provide one, specific example.

900-hour Automated Manufacturing Certificate highlights:

* While still attending or just after graduating from high school or as an adult, students completing a 900-hour certificate develop skills needed in Utah’s largest employment sector.
* Participating employers offer tuition reimbursement, excellent pay, and a tremendous amount of real world experience.
* Certificates can be converted to 30 units of credits toward an Associate of Applied Science degree at Utah State University.
* A Bachelor of Science in Technology Systems degree can then be stacked on the A.A.S Degree.
* The Bachelor’s degree was created through the USU extension in cooperation with Bridgerland and local industry, which means that most of the general education courses can be completed online (while someone is working).
* For engineers, controls technicians, maintenance personnel, and operators who are currently working, the pathway provides opportunity for continuing education in some of the most advanced skills training in Utah as well as a pathway for those who never completed advanced degrees to do so.

1. List the opportunities for learners to earn articulate and/or transcript dual enrollment credit across K-12 and postsecondary, such as AP/IB, dual and concurrent enrollment, capstone experiences and/or transcripted credit articulation agreements. (250 word limit)

The AM STEM program enjoys an 88% completion rate at BTech's Logan campus and 68% at their Brigham City campus. The population of students in the Brigham City carries a higher population of students who voluntarily interrupt their education for two years while they perform church service. The gap between campuses is expected to close in future years as those students return to continue their education.

Placement rates are 98% from the Logan campus and 93% from Brigham City.

As a result of the AM STEM Programs' influence, BTech reports a marked shift in student demographics towards those who are ultimately seeking a 4-year degree in Engineering.

1. Please provide information on **at least three partnerships** with *education institutions and groups* your program of study has, and describe how these partnerships have been built, maintained and sustained over time. Use this space to specifically address the secondary and postsecondary partners that contribute to and maintain this program of study.

|  |  |  |
| --- | --- | --- |
| **Education Partnership Name** | **What role does this partner have in directly supporting your program of study?** | **How many years has this partnership been active, and how was this partnership developed?** |
| Bridgerland Technical College | Annual professional development for all teachers  Daily, interactive, distance learning broadcasts | Three full school years, founding member |
| Box Elder School District | "Zero Hour" classes and established CTE course offering | Three full school years, founding member. |
| Logan School District | "Zero Hour" classes and established CTE course offering | Three full school years, founding member. |
| Rich School District | "Zero Hour" classes and established CTE course offering | Three full school years, founding member. |

# **ALIGNMENT WITH INDUSTRY AND BUSINESS NEEDS**

1. Describe how your program of study is aligned with the needs of the workforce and industry in your community. Make sure to include information on how the program of study helps meet workforce demand identified by business and industry. What labor market data does your program of study use to align to workforce needs? (250 word limit)

This initiative began with Industry's recognition that they had a significant challenge in recruiting and retaining qualified workers. Many in the workforce were "imported" from California and Indiana. Those workers were qualified, but often became dissatisfied with the local lifestyle and would move to larger cities in other states for additional opportunities. In response, Industry Representatives began to seek a means to develop local talent who would be more likely to stay in the area.

Beyond that initial need, industry and Education actively partnered to define the content, tailoring it to meet Industry's requirements for entry level employees. Those needs defined Bridgerland's 900-hour certificate program, which in turn leveraged existing training in secondary schools.

1. Are ALL learners in the program of study required to participate in a work-based learning opportunity? Please describe the work-based learning opportunities available to learners who participate in this program of study. (250 word limit)

Not at the secondary level, but they are available to students as they complete their 900-hour certificate. Secondary students participate in tours of local industries throughout their secondary education coursework, occasionally shadowing workers and seeing firsthand how the skills they are developing in class/lab applies to real-world situations and needs.

1. Please list the industry-recognized credentials/certifications/licenses offered/required. If your program of study does not include industry-based credentials/certifications, please explain why. (200 word limit)

Significant preference is given to applicants who have earned the 900-hour certificate. They are guaranteed and interview with each of the partnering companies. They are not guaranteed a job offer, but almost always receive one.

Industry recognition is also given to Skills Certifications that are earned at the completion of each CTE course. These credentials are often enough to secure a position and enable the student to continue their education at the Technical College, stacking that certificate towards a college degree.

|  |  |
| --- | --- |
| **Offered** | **Required** |
| Robotics 1 skills certificate | 900-hour Automated Manufacturing Certificate |
| Robotics 2 skills certificate |  |
| Electronics 1 skills certificate |  |
| Solidworks CSWA |  |

1. Please provide information **at least three** *business, industry and/or labor* partnerships your program of study has, and describe how these partnerships have been built, maintained and sustained over time.

|  |  |  |
| --- | --- | --- |
| **Business/Industry Name** | **What role does this partner have in directly supporting your program of study?** | **How many years has this partnership been active, and how was this partnership developed?** |
| 1. Autoliv  2. Newcorp Steel  3. Boeing | Initial and ongoing input into course content, classroom visits, tours, internships, and equipment grants. | Three full school years, founding member. |
| 4. Mom Brands  5. Thermal Fisher Scientific | Initial and ongoing input into course content, classroom visits, tours, internships, and equipment grants. | Three full school years, founding member. |
| 6. Pepperidge Farm  7. Inovar | Initial and ongoing input into course content, classroom visits, tours, internships, and equipment grants. | Three full school years, founding member. |
| 8. Schreiber  9. Prismview | Initial and ongoing input into course content, classroom visits, tours, internships, and equipment grants. | Three full school years, founding member. |
| 10. Setpoint  11. DuPont | Initial and ongoing input into course content, classroom visits, tours, internships, and equipment grants. | Three full school years, founding member. |

1. Please feel free to use the space below to share any other information or evidence of success of your program of study and the learners who participate. (Optional)

High School enrollment:

8, prior to program introduction (2014-15)

117, first year (2015-16)

142, second year (2016-17)

185, third year (2017-18)

900-Hour Automated Manufacturing Certificate Completers:

9, prior to program introduction (2014-15)

9, program in place, but first cohort was in their initial year (2015-16)

53\*, first cohort completion (2016-17)

\*This is a particularly significant statistic when it is understood that a large portion of the students in the area leave for two years of church service immediate after graduating from high school.

1. If applicable, please provide more detail on any partnerships your program of study has that have not been mentioned already. This includes community groups, non-profits, volunteer organizations, etc. Describe how these partnerships have been built, maintained and sustained over time. (Optional)

|  |  |  |
| --- | --- | --- |
| **Additional Partnerships** | **What role does this partner have in directly supporting your program of study?** | **How many years has this partnership been active, and how was this partnership developed?** |
| Utah State University | Recognition of and credit for stackable credentials earned through the Technical College | Three full school years, founding member. |
| Utah State Board of Education | Pathway definition, course standards, professional development, state-wide correlation. | Three full school years, founding member. |
| Utah Education Network (UEN) | Distance Learning System | Three full school years, founding member. |

# **SUBMIT YOUR APPLICATION**

**SUBMIT YOUR APPLICATION**

* Fill out this application.
* Once you have finished, complete [this form](https://careertech.org/2019-excellence-action-application) and upload the following:
* Your full application saved as a Word document (.docx)
* All of your supplemental documents or evidence consolidated as one PDF document.

**THANK YOU!**

Thank you for completing this application! You will know the status of your application by January 22, 2019. The programs of study will be evaluated based on their effective leveraging of partnerships, alignment to rigorous and relevant college- and career-ready expectations, clear progression of knowledge and skills across secondary and postsecondary systems, integration of successful career guidance/advisement, and key indicators of learner success.

Don’t forget to use the Excellence in Action award submission checklist to make sure you’ve completed your application in its entirety.

We look forward to learning more about your program!

For questions, concerns please contact [awards@careertech.org](mailto:awards@careertech.org).