# **ADVANCE CTE EXCELLENCE IN ACTION AWARD**

**PROGRAM SUMMARY**

Advance CTE is pleased to announce a call for applications for the fifth 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 student 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; and
* Providing concrete data on the program of study’s impact on student achievement and success at both the secondary and postsecondary levels.

**ELIGIBILITY**

* This award is open to any 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 student achievement will not be eligible for consideration.
* If your program has received in an award 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 15, 2017 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/2018-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 student.
* 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; and
* 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 4-6, 2018.

**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/2018-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: Granite Technical Institute/***Utah Aerospace Pathways***
2. Point of Contact
 Name: Sandra Hemmert

Email Address: smhemmert@graniteschools.org

Phone Number: 385.646.4340
Address: 2500 South State Street, Salt Lake City, UT 84115

1. Applicant’s School/College: Granite Technical Institute/Granite School District
2. State: Utah
3. Type of institution (click the box to check)

 [x]  Area technical center (secondary)

X

[ ]  Career academy

 [ ]  Comprehensive high school

 [ ]  Community college

 [ ]  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

X

 [ ]  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 Utah Governor’s Office of Economic Development (GOED) and aerospace industry partners initiated Utah Aerospace Pathways (UAP) in January 2015. UAP was operational in both secondary and postsecondary education partners by August 2015 with sequencing of coursework between the secondary and postsecondary in place by January 2016. UAP requires students to complete a high school course, an aligned college course, and a 48-hour externship in industry to receive the industry Utah Aerospace Pathways Certificate guaranteeing students an interview with any of the participating aerospace partner companies.

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.

 [x]  Urban

X

X

 [x]  Suburban

 [ ]  Rural

 [ ]  Other

Granite School District has grown in both minority and low SES populations over the past 10 years. The difference in the combined poverty rate between the 3 year and the 5-year poverty estimates found in the chart below is just over 3% with one city showing a difference of almost 4%. Poverty rates are impacting student achievement, dropout rates, and student attendance. Three year and five-year poverty rates were analyzed. The data shows a combined poverty rate of 20.8% on the 2012, 3 and 5-Year American Community Survey.

2012 American Community Survey 3-Year/5-Year Poverty Estimates

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Kearns | Magna | South Salt Lake | West Valley City | Combined Average Poverty Rate |
| 3-Year | 16.1% | 15.2% | 30.7% | 21.3% | 20.83% |
| 5-Year | 12.8% | 13.0% | 27.1% | 17.4% | 17.56% |

The updated 2015 American Community Survey 5-year estimates show increases in poverty with unemployment rates also at alarming rates for 16 – 24 year olds.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | United States | Utah | Kearns | Magna | South Salt Lake | West Valley City |
| Poverty | 12.7% | 10.2% | 16.3% | 13.6% | 26.8% | 18.8% |
| Overall Unemployment 16 years + | 8.3% | 5.8% | 6.8% | 7.7% | 6.5% | 7.9% |
| Unemployment16-19 | 25.1% | 18.0% | 27.4% | 34.1% | 24.6% | 24.4% |
| Unemployment20-24 | 14.2% | 7.9% | 12.6% | 21.9% | 9.1% | 12.7% |

Granite School District falls within Salt Lake County. The county’s unemployment rate was 3.2% in September 2017. This rate has stayed relatively stable over the past two years. All communities listed above fall well above the county’s unemployment rate.

Combining the poverty and unemployment rates in these communities creates a compelling picture. Many students in Granite come from homes where parents are working two to three jobs and are having high school students get younger siblings off to school while acting as a caretaker at night. Some high school students are working jobs that keep them up until late hours and then are failing to come to school ready to learn. The descriptions of the high school students above are directly linked to absenteeism, tardiness and students dropping out of school. Supporting at-risk students in finding a clear pathway is critical in keeping them connected to school. For many of these students, school is just one more thing to deal with. Students who have a clear vision of what opportunities exist and how school is helping them obtain this vision are more likely to stay in school. Utah’s 2016 dropout rate was 13%. This rate has dropped from 16% in 2013. Granite School District’s graduation rate for 2016 was 73% up from 70% in 2014 indicating a dropout rate of 27%.

The discussion of employed versus underemployed is important. Many parents in the district are hardworking and desire to provide a strong economic home life, but continue to fall within the unemployed and underemployed categories. In addition, Granite School District serves approximately 70% of Utah’s refugee population. There are currently approximately 60,000 Refugees in Utah. The vast majority resides in Salt Lake County with about 42,000 being served by Granite School District. Many of these refugees have degrees in their homeland, but cannot use them in the United States. Opening doors to Utah Aerospace Pathways for adults and high school students in the district is one way Granite Career & Technical Education is addressing the needs of both adult and youth refugees.

# **STUDENT 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 student achievement will not be eligible for consideration. (100 word limit)

UAP was designed to create strong partnerships between secondary and postsecondary. Granite School District and Davis School District were the two original secondary partners. Granite aligned course content with Salt Lake Community College. Davis partners with the Davis Applied Technology College. Data for the first two years of UAP follows:

|  |
| --- |
| **UAP Dashboard** |
| **Cohort** | **SLCC/Granite SD** | **DATC/Davis SD** | **New Districts** | **Dropout/Fail** | **Continued Training instead of Employment** | **Applied** | **Interviewed** | **Hired** | **Declined Interview or Job** | **3 monthRetention** | **6 month Retention** | **12 month Retention** |
| Adults # 1 | 12 | 11 |   | 2 | 2 | 18 | 14 | 8 | 2 | 19 | 14 | 11 |
| Adults # 2 | 12 | 9 |   | 3 | 2 | 13 | 12 | 7 | 1 |
| Adults # 3 | 16 | 4 |   | 5 |   | 13 | 13 | 2 |   |
| Adults # 4 | 8 | 7 |   | 4 |   | 13 | 13 | 9 |   |
| HS # 1 | 22 | 20 |  | 3 | 2 | 24 | 24 | 22 | 7 | 16 | 15 | 6 |
| HS # 2 | 16 | 22 |  21 | 4 |   | 5 | 5 | 4 | 4 |
| **Totals** | **86** | **73** | **28** | **21** | **6** | **86** | **81** | **52** | **14** | **35** | **29** | **17** |

**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, not the entire school/institution. Additionally, only include data where students 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 | 2014-15 | 2015-16 | 2016-17 |
| **SECONDARY-LEVEL DATA** |
| **Total number of students served by your program of study**  |  | 21 | 49 |
| % male students  | % | 90.5% | 93.9% |
| % female students  | % | 9.5% | 6.1% |
| % minority students | % | 33.3% | 20.4% |
| % low-income students  | % | 47.6% | 36.7% |
| % students with disabilities  | % | 4.8% | 2% |
| % English language learners | % | 0% | 2% |
| Other relevant *demographic* data  |  |  |  |
| % of students who earned postsecondary credit (dual enrollment, AP, etc.) Hours toward a college proficiency certificate | % | 100% | 32.7% |
| % of students who earned an industry-recognized credential  | % | 100% | 32.7% |
| % of students who participated in work-based learning | % | 100% | 100% |
| % of seniors who graduated high school (who were eligible/seniors)  | % | 100% | 100% |
| % of graduates who enrolled in postsecondary education (who were eligible/seniors)  | % | % | % |
| % of graduates who entered the workplace and/or military (who were eligible/seniors)  | % | 29% | % |
| **POSTSECONDARY-LEVEL DATA** |
| **Total number of students served by your program of study**  |  | 22 | 24 |
| % male students  | % | 95% | 96% |
| % female students  | % | 5% | 4% |
| % minority students | % | 32% | 29% |
| % low-income students  | % | % | % |
| % students with disabilities  | % | % | % |
| % English language learners | % | % | % |
| Other relevant *demographic* data  |  |  |  |
| % of students who completed postsecondary/earned a degree or certificate (who were eligible)  | % | 86% | 79% |
| % of students who earned an industry-recognized credential (who were eligible)  | % | 86% | 79% |
| % of graduates who entered the workplace and/or military (who were eligible)  | % | 23% | 13% |
| % of graduates who transitioned to further postsecondary education (who were eligible) |  |  |  |

1. Provide links to the source of the above data. If the links are not publicly accessible, please explain the source of the data.

 Data provided above comes from 2 sources. The first is the Granite School District student management system. All demographics came from the district secure database. The second source of data was from the Utah Department of Workforce Services Talent Ready UAP dashboard. Employment tracking comes from an online data gathering system that tracks participants in Utah Aerospace Pathways.

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

The Granite Technical Institute has an open enrollment policy allowing all students to enter courses unless a specific requirement is set by a partnering institution (e.g. concurrent enrollment college courses). Student interest is a major factor in enrollment. GTI students participate in tours at the start of each semester. These tours increase student awareness of other pathway opportunities and provide the ability to change pathways or to participate in multiple pathways. GTI teachers work to differentiate all curriculum to support students with diverse needs. Teachers seek support from teachers and counselors at home schools to better understand the needs of each student in their classrooms. Industry partners also provide a strong base of support and provide the standards for entry-level employment. These standards are not lowered. Rather, teachers work with students through performance based to reach the acceptable mark set by industry.

1. If applicable, what strategies or technologies do you use to close access gaps? (e.g. integrated digital learning, virtual work based learning.)

Granite School District utilizes a learning management system known as CANVAS. This tool allows teachers to post videos, extra support material, and assessments that students can repeat until they are proficient in a specific topic. CANVAS also allows the teacher to use a flipped classroom methodology where students can study a topic at home and then participate in hands-on learning in the classroom. Hands-on learning enhances a students understanding of a topic while increasing student engagement and desire to learn.

Many teachers create tutorials for topics that are difficult for students to understand. This allows the student to review the material developing a strong knowledge base for application in the classroom.

Granite is also implementing a new work-based learning tool that will support virtual industry partner presentations and the ability for students to ask questions all through a virtual medium. It is believed that this tool will provide opportunities for interaction with industry partners that cannot be accomplished through the limited field trips that are currently available for students.

1. What activities does your school or institution do to recruit elementary, middle, high school students and/or adult learners into the program of study? Please provide examples. (150 word limit)

Granite School District recruits in a number of ways. These include:

* Industry representatives conduct interactive presentations and pathway afterschool events with adult learners, parents and students. Benefits of participation are explained and students are actively recruited to join.
* Guidance counselors and career coordinators are educated on the program and given information on how to help students participate and arrange schedules.
* Marketing videos were created and posted to a dedicated website.
* Posters and literature explaining the program were created and distributed throughout the district.
* An open house event with industry representatives was hosted at GTI to introduce students and parents to the program.
* Personal invitations were extended to students.
* Summer camps for grades 6 – 11.

More important than any of the above recruitment activities is student word of mouth. Students talk about their experiences. This is one of the most effective ways to get other students in a program.

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)



SkillsUSA is fully integrated into both the manufacturing and composites courses. Industry partners identified specific soft skills needed for success in industry. These skills coincide with those found in the Skills USA Career Readiness curriculum and are actively trained as part of course content.

1. Describe how career guidance/advisement is integrated into your program of study to support students’ completion of the program of study and entry into additional education/training and/or a successful career. 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)

Granite School District has a strong College and Career Readiness department who actively support Career & Technical Education. Students receive career awareness counseling starting in 7th grade as junior high school counselors participate in lesson in the College and Career Readiness course. Ongoing training and opportunities for counselors to tour industry facilities supports a greater understanding of all pathways allowing counselors to talk with students fluently about opportunities in the industry.

Counselors in both junior and senior high schools have been involved in industry presentations and tour to gain a greater understanding of the Utah Aerospace Pathways program. Students are “admitted” to the UAP program at the beginning of their program of study. This may occur as early as the 9th grade with students taking prerequisites to the courses required for UAP pathway participation. Counselors are instrumental in facilitating the students’ access to each of the course they will be required to complete. Counselors also help them understand the commitment they are making to complete the program as they join on. Counselors assist with addressing registration issues that can arise by reworking schedules while assuring that graduation requirements can still be met.

# **COLLEGE- AND CAREER-READY STANDARDS/EXPECTATIONS**

1. Please describe how your program of study was developed and how it ensures students are academically and technically prepared for postsecondary education and careers. Please also address the following:
	1. How were employers involved in the development and/or 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 students 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)
	5. A group of industry partners joined together to determine how to create a talent pool for the Utah aerospace industry. These employers were competitors, but saw a need to stop the “bleeding of employees” (employees moving from company to company in search of a higher wage). High-ranking officials from the companies populated this group. This group became an executive board for UAP and worked with individuals in their companies to develop a common list of needed skills for entry-level employment within all their companies.

A sub group was then called that consisted of pilot districts and colleges, the Utah State Board of Education CTE representatives, the Governor’s Office of Economic Development, the Department of Workforce Services and most important “industry partners.” This group worked on implementation of all aspects of the Utah Aerospace Pathways program including such elements as:

* Courses needed to address the list of entry-level skills
* Strands and standards for the courses (the skills list was then divided into meaningful units and standards for individual courses were developed by the SEA)
* Curriculum design (LEAs took the state standards and developed the applicable curriculum in concert with ideas and input from industry representatives.
* Assessment tools
* Work-based learning opportunities (industry tours, industry presentations, job shadows, internships)
* Certificate development (industry endorsed a certificate based on the completion of the required coursework)
* Methods of hiring

The subgroup acts as a working group and continues to focus on areas of needed change and continuous improvement.

* 1. The program of study was developed by industry for industry thus ensuring that the skills learned are in direct alignment to the needs of the companies. Aerospace/defense is a major area of focus for the Utah Governor’s Economic Development Office. Changes in industry trends are discussed at the executive level and are filtered down to the working subgroup to keep a focus on the economic needs of the region and state.
	2. Postsecondary was an active partner in development of the curriculum and offer similar curriculum in a college course through the Salt Lake Community College and the Davis Technical College. This alignment with college curriculum was so effective that students in the second year of the program (2016/17) had developed so completely the required skills trained by the college that the college course had to be reworked for more advanced training. Students who complete the program of study and receive the industry certificate are then guaranteed an opportunity to apply and interview for a position with any of the industry partners through special job codes that designate them as UAP students.
	3. The UAP program involved collaboration for both secondary and postsecondary institutions. The original partnership included; Granite School District, Davis School District, Salt Lake Community College and Davis Applied Technology College. This supported the development of a high school and postsecondary training program. Both secondary and postsecondary were involved from the inception of UAP and continue to collaborate on curriculum, articulation, the ability to obtain hours for certification in high school.
1. Which technical, academic and/or employability skill 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)

Academic – Common Core math and literacy standards are integrated as applied skills in CTE courses including the manufacturing and composites courses. Industry partners included math and technical communication as part of the entry-level skills list (see appendix). This skills list along with common core literacy and math standards identified for application in technical courses are being implemented as part of the UAP curriculum.

Technical - State CTE course strands and standards for Composites 1 and Manufacturing Principles 1 and 2 were developed based on industry input. Industry partners created a skills list. This list is constantly being reviewed and updated. The list was updated following the 2015 pilot year after students completed their externships. It was identified that increased assembly skills were needed in the technical area. Industry partners also give ongoing feedback about the employability and personal skills that are on the list.

Employability - Three sources have been cross-referenced in relation to employability skills. These include: 1) Utah aerospace industry entry level employment skills list, 2) the SkillsUSA Career Readiness Framework, and 3) the Advanced Manufacturing Competency Model developed by the Department of Workforce Services. This model was designed in conjunction with the Manufacturing Institute, SME and the National Council for Advanced Manufacturing.

Skills from each of these models have been aligned and teachers are reinforcing the skills as part of classroom policies and instruction. Students applying to be part of UAP need recommendations from teachers, which includes performance related to employability skills.

# **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, and explain how your program of study ensures students 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](http://careertech.org/sites/default/files/PlanStudy-CareerCluster-AG_0.pdf) of the course sequence in lieu of filling out the chart below.

Granite School District in conjunction with aerospace industry partners has developed a sequence of recommended and required courses that will build student skill levels for further training and/or entry level employment. The sequence follows:

* 9th or 10th: Manufacturing Technology (recommended)
* 10th - 12th: Manufacturing Principles 1 (required)
* 10th - 12th: Manufacturing Principles 2 (recommended)
* 11th or 12th: Composites 1 (required)
* 12th: Composites 2 – Capstone Project (optional)
* 12th: 48-hour Externship (required)

**Manufacturing Technology** provides students with a broad exposure to production with a strong emphasis on the effects of technology on the environment, economy, and society as a whole.

**Manufacturing Principles** develops work-place or “soft” skills specifically as well as a variety of general skills needed in a production environment such as precision measurement, determining compliance with tolerances and specifications, interpreting technical documents, quality assurance procedures, and an introduction to Lean Manufacturing techniques.

**Composites** addresses the basic materials, processing techniques, appropriate applications, cleanliness, safety, etc.

**Externships** provide a hands-on application in a real-world setting. The externship allows a student to assess their knowledge and aptitudes for work in the industry while allowing an employer the opportunity to assess the student’s work ethic, technical skills, willingness to learn, and attitude.

Completion of these requirements results in a certificate and an opportunity to interview for a position with any of the industry partners. Students are encouraged to continue on with their education as employees with coursework for additional certificates or a degree program. The majority of aerospace partners will pay for continued education through tuition reimbursement programs at their companies.

The sequence of courses along with articulation with postsecondary institutions provides the student with: 1) an opportunity to gain greater awareness of the industry, 2) development of the soft/professional skills identified by industry as important for success as an employee, 3) the ability to perform the entry-level technical tasks for the aerospace industry, 4) the opportunity to test learned skills through capstone projects, 5) a clear sequence for further training at the postsecondary level, and 6) a method to pay for desired further education.

**Utah Aerospace Pathways Course Sequence**

**Manufacturing Technology**

9th Grade in Junior/High Schools

(recommended)

**Manufacturing Principles 1**

10th – 12th Grades in High Schools

(Required for UAP Externship)

**Manufacturing Principles 2**

10th – 12th Grades in High Schools

 (recommended)

**Composites I**

10th – 12th Grades in High Schools

(Required for UAP Externship)

***Aligns with SLCC course – Introduction to Composites, Level 1***

**Externships**

48 hours in UAP Partners

 (Required for UAP certification)

 (suggested/not required)

**Academic Coursework**

Concurrent enrollment course offerings that meets stackable credential requirements

**SLCC – Advanced Composites**

(60 hours including composites and machining)

SLCC’s stackable credential for Machining and Manufacturing Engineering Technology AS Transfer Degree follows.

**SLCC UAP**

**AEROSPACE MFG**

**CERTIFICATE**

* 30 HRS WFT
* 50 HRS COMPOSITES
* 25 HRS ASSEMBLY
* 20 HRS MACHINE SHOP

*Completed in the high school and college UAP composite sequence.*

**WSU**

**MANUFACTURING ENGINEERING TECHNOLOGY**

**BS DEGREE**

**4 YEAR**

**124-CREDIT HOURS**

* MFET DEGREE RANKED IN TOP 5 IN NATION
* HIGHEST ENTRY SALARIES FOR ALL ENGINEERING GRADS.
* 100% PLACEMENT LAST 25 YEARS
* $52,500 AVERAGE ENTRY LEVEL PAY
* FULLY ARTICULATED WITH SLCC AS PROGRAM
* THREE EMPHISIS:

COMPOSIES

WELDING

PROCESSES

* GRADUATES CAN TRACE CREDITS BACK TO:

SLCC UAP

SLCC SATTS

SLCC EDMT

**SLCC EDMT**

**MANUFACTURING ENGINEERING TECHNOLOGY**

**AS TRANSFER DEGREE**

* GD&T\*
* MAN MACHINING\*
* MAN MACHINING LAB\*
* CNC MACHINING\*
* CNC MACHINING LAB\*
* MATH 1050\*
* INTRO AUTO-CAD\*
* MFG PROCESS\*
* MFG PROCESS LAB\*
* CAD/CAM\*
* WELDING\*
* COMMUNICATIONS\*
* HUMAN RELATIONS\*
* ADVANCED AUTO-CAD
* CHEMISTRY
* PHYSICS
* MATH1060
* MATH1210
* LIFE LONG WELLNESS
* US GOVERNMENT
* ECONOMICS
* INTRO TO WRITING
* INTERMED WRITING
* BIOLOGY
* HUMANITIES
* FINE ARTS
* SOCIALOGY

**SLCC EDMT**

**MACHINING CAD/CAM**

 **TECHNOLOGY**

**1 YEAR CERTIFICATE**

* GD&T\*
* MAN MACHINING\*
* MAN MACHINING LAB\*
* CNC MACHINING\*
* CNC MACNINING LAB\*
* *MATH1050*
* *INTRO AUTO-CAD*
* *MFG PROCESS*
* *MFG PROCESS LAB*
* CAD/CAM
* WELDING
* COMMUNICATIONS
* HUMAN RELATIONS

**SLCC SATTS**

 **MANUAL MACHINING CERTIFICATE**

**COMPLETION**

* INTRODUCTION\*
* BASIC LATHE
* ADVANCE LATHE
* BASIC MILL
* ADVANCE MILL
* BASIC GRIND
* ADVANCE GRIND
* BASIC CNC
* ADVANCE CNC

***Salt Lake Community College***

* **STACKABLE CREDENTIALS**
* **UAP to SATTS to EDMT to WSU**
* **NON-CREDIT TO CREDIT**
* **CERTIFICATE TO BS MFET**

\*Students can receive credit for these courses by completing the previous certificate or degree.

1. How do you ensure that CTE instruction and coursework is integrated with core academics?

The Utah Aerospace Pathways industry board provided a list of critical skills needed for entry-level employment. These skills include: soft/professional, technical and academic skills necessary for workforce success. These skills were the basis for development of the Utah State Board of Education CTE course strands and standards in manufacturing and composites. Students are assessed in all CTE courses for grades 9 – 12 on both a written exam and a performance measure. Completion of performance standards at an 80% or higher level is required to receive a Utah State Certification for the coursework completed during a semester or year. Written competency is secondary to the performance measure. Industry involvement in development of the skills that provide the foundation for CTE course strands and standards provide a basis for the integration of core academics into CTE instruction.

Curriculum maps are required for all courses in Granite School District. These maps support unpacking the strands and standards set by the state. Maps also facilitate integration of academics into instruction. Granite CTE utilizes an online mapping tool call RubiconAtlas. RubiconAtlas allows teachers to create units that include: CTE standards, content to be taught, skills to be performed, vocabulary, assessment (both formative and summative), and activities that will promote increased student achievement. RubiconAtlas also supports alignment of academic standards with CTE standards. CTE teachers are offered time to work with academic counterparts to map the core academic standards that directly align with CTE content. The goal is not to apply all core academic standards. Rather, the process looks at what academic standards fit naturally as part of the CTE core content. Emphasis is placed on integrating grade level academic content whenever possible into CTE instruction.

1. List the opportunities for students 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)

Granite has developed strong partnerships with postsecondary institutions. Granite currently works with a number of four-year institutions along with the Salt Lake Community College.

GTI programs of study are designed to align with one or more options for students including: industry certification and/or concurrent enrollment college credit targeted at earning a specific degree. Utah Aerospace Pathways does not currently align with credit classes. Rather, students receive hours toward a certificate of completion or proficiency. These certificates are then articulated with two-year associates or applied associate degrees and then with four-year bachelors degrees. The chart on page 13 shows the articulation plan for some of the participants in the UAP. It should be noted that Salt Lake Community College’s program is articulated with the Weber State University’s Manufacturing Engineering Technology Bachelors degree. This articulation agreement crosses four distinct institutions: the high school program, SLCC aerospace composites training non-credit program, SLCC credit options in machining and manufacturing technology, and then on to the bachelors degree at Weber State University.

Many students entering UAP have a clear plan for training after high school. Some students have identified an engineering pathway while other students want certificates that will allow them to enter employment immediately out of high school. UAP supports either option or a combination of both.

GTI programs of study also work closely with industry to support student capstone project development and completion and/or industry externships. Both of these options support smooth transition into the workforce and/or postsecondary training.

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?** |
| Salt Lake Community College | SLCC has been an active partner from the beginning of UAP and has worked with Granite CTE to articulate coursework for both high school students and adult learners. | Long-term, ongoingSLCC is Granite’s region postsecondary partner for both noncredit and credit coursework. This alignment was originally set up through the state as a service region, which includes both secondary and postsecondary partners. |
| Utah State Board of Education | Help develop Strands and Standards for the courses and Industry Certification Exams | 2 years, Utah Aerospace Pathways – Granite provides support to USBE with ongoing implementation of industry boards. This support is reciprocated through active involvement in development of strands and standards for new and/or modified coursework to address the needs of region industry partners. |
| Precision Exams | Helped develop Industry Recognized Certification Exams | 2 years, Utah Aerospace Pathways |
| Davis School District/Davis Technical College | Active partners at both the secondary and postsecondary levels for implementation of the UAP project. | 2 years, Utah Aerospace Pathways – Granite has worked with Davis School District on a number of projects and continues to work with Davis for ongoing improvement of UAP procedures, curriculum and work-based learning opportunities. |

# **ALIGNMENT WITH INDUSTRY AND BUSINESS NEEDS**

1. Please 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. If applicable, what labor market data does your program of study use to align to workforce needs? (250 word limit)

Utah Aerospace Pathways training program was designed based on skills identified by industry. The skills list created by UAP partners was the basis for the strands and standards implemented in coursework at the secondary level and for modifications to programs at the postsecondary level. UAP provided the impetus for articulation between secondary and postsecondary programs and offers incentives (good pay, advancement and tuition reimbursement) many students are seeking in an employer/employee relationship.

UAP was designed based on a critical need for employees in the Utah aerospace industry. Regionally, the advanced composites industry covers nearly 30% of the counties in Utah. The aerospace and defense cluster continues to expand in Utah. In 2015, the industry accounted for 944 companies and 31,390 employees. Hill Air Force Base, Utah’s largest single employer, identified a need for 1,010 to 1,210 new hires between now and 2019. The need for skill-specific employees was identified in a lean canvas conducted by the Utah Advanced Materials Manufacturing Initiative. UAP has moved training for this industry to the secondary level to address this need increasing the number of individuals with entry-level skills identified by the industry. UAP is targeted to address the need of the industry and to grow across the state of Utah. A pipeline of high school students interested in working in the industry and continuing further training is critical if the industry need is to be addressed at all levels within companies.

1. Are ALL students in the program of study required to participate in a work-based learning opportunity? YES or NO.

YES – Multiple opportunities are required

1. Please describe the work-based learning opportunities available to students who participate in this program of study. (250 word limit)

Work-based learning opportunities are an important part of Granite’s involvement in the Utah Aerospace Pathways program and training in manufacturing and composites. The state of Utah has defined work-based learning as “a continuum of awareness, exploration, preparation and training activities that combine structured learning and authentic work experiences implemented through an industry and education partnership.” Granite’s composite and manufacturing training program utilizes work-based learning to complete all aspects of this definition.

Students participate in career events and industry tours to increase awareness of the industry and to initiate exploration. Hands-on classroom activities supported by industry partners increases the exploration experience providing students with the opportunity to test the skills that will be needed in industry. Guest lectures and real-world industry projects and problems support preparation and training and a structured internship provides a culminating experience to prepare for entrance into the aerospace workforce. In addition, company representatives participate in application and interview orientation, act as mentors as the student wades through the entry level requirements for new employees and offer encouragement to students seeking a better understanding of how they fit within industry.

UAP was built based on industry needs and expectations. Industry partners who identified the needs and expectations are willing to support in any way they can to increase the number of qualified entry-level workers. Work-based learning opportunities have been identified as key to UAP recruiting, training, and moving students from the school to the workforce setting.

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)

|  |  |
| --- | --- |
| **Offered** | **Required**  |
| Industry-defined **Utah Aerospace Pathways certificate**This certificate is offered by industry partners | Industry-defined **Utah Aerospace Pathway certificate**Required for guaranteed job interview with participating partners |
| **Utah State Board of Education CTE Skill Certificates**(Required by all students completing CTE coursework) |
| Manufacturing Technology CTE Skills Certificate | Manufacturing Technology Skills Certificate |
| Manufacturing Principles Skills Certificate | Manufacturing Principles Skills Certificate |
| Composites 1 Skills Certificate | Composites 1 Skills Certificate |

Certificates identified above have all been created based on industry input (industry skills list). The original skills list created by the aerospace industry was modified by industry focus groups from multiple specialty areas of the manufacturing industry supporting a more comprehensive skill set in the Manufacturing Principles 1 and Manufacturing Principles 2 courses. A copy of the completed Advanced Manufacturing Skills List is attached. Certificates obtained through the USBE are of greater value based on the alignment to industry needs. The Utah Aerospace Pathway Certificate is endorsed by all UAP partners and opens the door to interviews at all UAP companies. Additionally, other composite companies are suggesting they would accept the UAP certificate as a source for increased likelihood of employment.

1. Please describe how you ensure the instructors teaching this program of study keep up-to-date on advancements in the workplace, such as participating in externships and/or requirements to have current industry credentials. (100 word limit)

Initially, teachers completed a 2-week internship, two days with each industry partner, involving hands-on instruction. These internships have been shortened, but continue for teachers who will be instructing manufacturing coursework. In addition, training is being provided by the USBE CTE Department as part of a High School Certification grant. This training is being offered by Impact Utah. This group has provided training to manufacturers in the state for over 20 years and will support teachers in learning the skills needed by industry. Teachers also complete the certificate training offered in the adult learner track at Salt Lake Community College.

1. Please provide information on **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?** |
| **UAP Industry Partners** |
| Albany International | Externships, facility tours, in class demonstrations and recruiting, Professional development assistance for instructors | 2 ½ years, Utah Aerospace PathwayThe partnership was originally developed by industry request through the Utah Governor’s Office of Economic Development. The partnership is maintained through an executive board comprised of company leads that assign personnel to work on a working group with education and government partners to maintain and improve UAP. |
| The Boeing Company |
| Hexcel Corporation |
| Janicki Industries |
| Orbital ATK |
| Hill Air Force Base |
| **Associations** |
| Utah Advanced Materials Manufacturing Initiative (UAMMI) | UAMMI supports connections to industry partners and is currently working on a clearinghouse that align industry excess supplies and equipment that is either out-of-date of no longer needed with training programs for advanced materials | 3 years – Received designation as an Innovation Region with a focus on advanced materials. Sandra Hemmert (Granite) currently sits on the board and co-chairs the workforce development subcommittee. |
| Utah Manufacturers Association (UMA) | UMA has been a critical partner supporting setting up focus groups of industry partners across advanced manufacturing sectors. These focus groups were used to refine the initial standards created by the UAP for the manufacturing principles classes. In addition, focus groups identified the specialty areas where there is a critical need for entry-level employees. Manufacturing Focus groups have committed to a continuing role in reviewing and creating skills lists, standards, and curriculum for the areas not addressed through UAP. | 10+ years – This partnership has supported ongoing improvement to manufacturing sector training in Granite.  |
| Impact Utah | Impact Utah is a noted trainer for manufacturing companies in the State of Utah and has now expanded to other states in the region. Impact Utah has designed, trained and is providing the follow-up training for manufacturing teachers across the state of Utah. | 20+ years – Partnerships were originally developed when Impact Utah was Utah MEP with a grant through NIST. Sandra Hemmert (Granite) conducted ongoing strategic planning sessions with the group and continues to work closely with Impact Utah. |

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 students who participate. (Optional)

Utah Aerospace Pathways has had a significant impact on Granite School District students, students in other district who are now implementing UAP, colleges offering adult UAP programs, industry partners seeking a well-trained workforce, and the economy of the State of Utah. Students participating in UAP have been offered employment opportunities. Those students moving on to religious service or college have been told that when they are ready, they will be offered the guaranteed interviews as if they had applied right out of high school.

UAP has opened doors for industry partnerships with manufacturers from varied sectors including: welding, machining, electronics, plastics, composites, and additive. Utah Aerospace Pathways has led other industry groups to seek development of pathways leading to the Medical Innovations Pathway and the Diesel Pathway with additional pathways being discussed. Information Technology/Computer Science and Construction are two groups seeking development of new pathways in the state.

These pathways have been announced at press conferences by the Governor of the State of Utah, Gary Herbert, and have strong support including the implementation of Talent Ready Utah. Talent Ready Utah “focuses and optimizes the efforts businesses make to enhance education.” Career pathways like UAP are part of the Talent Ready Utah effort and this momentum has led to 2018 being designated as the year of technical education.

Utah Aerospace Pathways has not only made a significant difference in the development of advanced manufacturing training programs, but is also having an impact on all CTE pathways in Granite School District, but more important has raised the visibility of high school CTE programs throughout the state of Utah.

A team from industry, associations, governmental agencies, and education both at the secondary and postsecondary levels designed and implemented UAP. Granite was one of these partners, but it should be noted that the success of UAP came from the team effort and could not have been accomplished without everyone working together.

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?** |
| **Governmental Agencies** |
| Governor’s Office of Economic Development (GOED) | Acts as a facilitator and convener of pathway groups starting with Utah Aerospace Pathways. GOED provides the connections to join partners in a focused effort of workforce development designed to meet the needs of current and future Utah companies. | The GOED partnership has been active for a number of years, but has been refined and solidified over the last three years as new pathways have been developed. Granite has participated in two of the three original pathways and is working on additional pathways that meet the needs of industry in the Wasatch Front South region. |
| Utah Department of Workforce Services | DWS supports the adult pathway training programs, identifies industry partners in sectors, and maintains the tracking dashboard to assess the success of UAP and other industry pathways.In addition, DWS provides economic data that supports definition of industry sectors that have a critical need for talent that can be aligned with training programs in secondary and postsecondary education. | Granite has partnered with DWS for 15+ years. Sandra Hemmert has participated in DWS boards, ad hoc committees and has worked with DWS partners on grants. DWS has been a strong supporter of UAP pathway implementation and was one of the original partners.  |

**SUBMIT YOUR APPLICATION**

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* Fill out this application.
* Once you have finished, complete [this form](https://careertech.org/2018-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! The selection committee will convene in December 2017 to review the applications and make final decisions. You will know the status of your application by January 25, 2018. 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 student 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.