Tooele Technical College

Strategic Workforce Initiative Proposal
FY19 Request

Tooele Technical College (TTECH), is requesting Strategic Workforce Initiative funding in order to develop a career pathway which includes a stackable credentialing program in partnership with Tooele County School District (TCSD) within the Utah Governor's Office of Economic Development (GOED) Aerospace Pathway cluster. This program is designed to create a pathway that supports the growing demand for skilled workers in the Aerospace and Manufacturing Industries.

Academic attainment is increasingly important to long-term state economic outcomes. High job growth expected in the next five years for qualified workers in the Aerospace and Defense Industries, with composites training is creating a critical need. Recruiting and enrolling potential employees into credential programs that will help them become qualified employees as quickly as possible is an overarching need. To meet this need, we must start with students in secondary schools and we must take advantage of the Utah CTE Career Aerospace Manufacturing Pathway to get students into these entry level positions.

Project Description

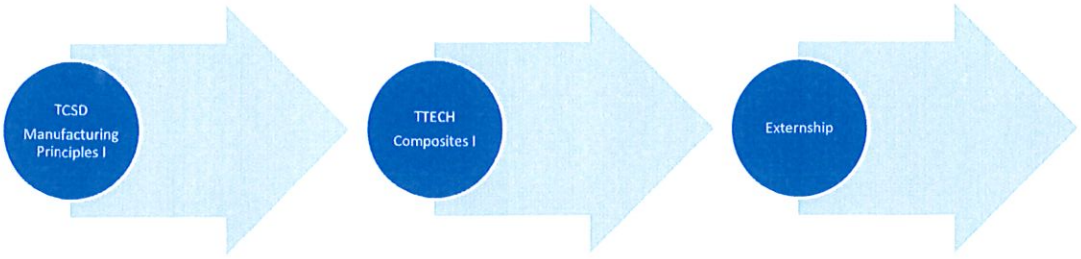
This proposal is an extension to the Utah Aerospace Pathways (UAP) Program currently in place through partnership with major aerospace and defense companies, Salt Lake Community College, Tooele Technical College, Davis Technical College, Ogden-Weber Technical College, Tooele County School District, Granite School District and Davis School District. The UAP program has been well received by industry partners and the education partners involved have seen great success in the recruitment and training of qualified students in the composites field. In Tooele County, the UAP program is being designed to allow high school students to work through their respective high schools to achieve manufacturing basics training and then transition to the TTECH to receive composites manufacturing competencies.

With this proposal, TTECH will expand the UAP concept by working directly with Tooele County School District to provide the entry level composites manufacturing training. This proposal allows students to complete an industry and USBE approved course (.5 credits), Composites I, within the Industrial Maintenance and Automation Technician program at TTECH concurrent with their high school enrollment that leads to completion of the Aerospace Manufacturing Career Pathway.

In addition, this initial course will serve as an elective in the Industrial Maintenance and Automation Technician program serving adult students who wish to include basic composites training in their certificate credential.

Stackable Sequence of Credentials

Beginning with the Utah Aerospace Pathway:

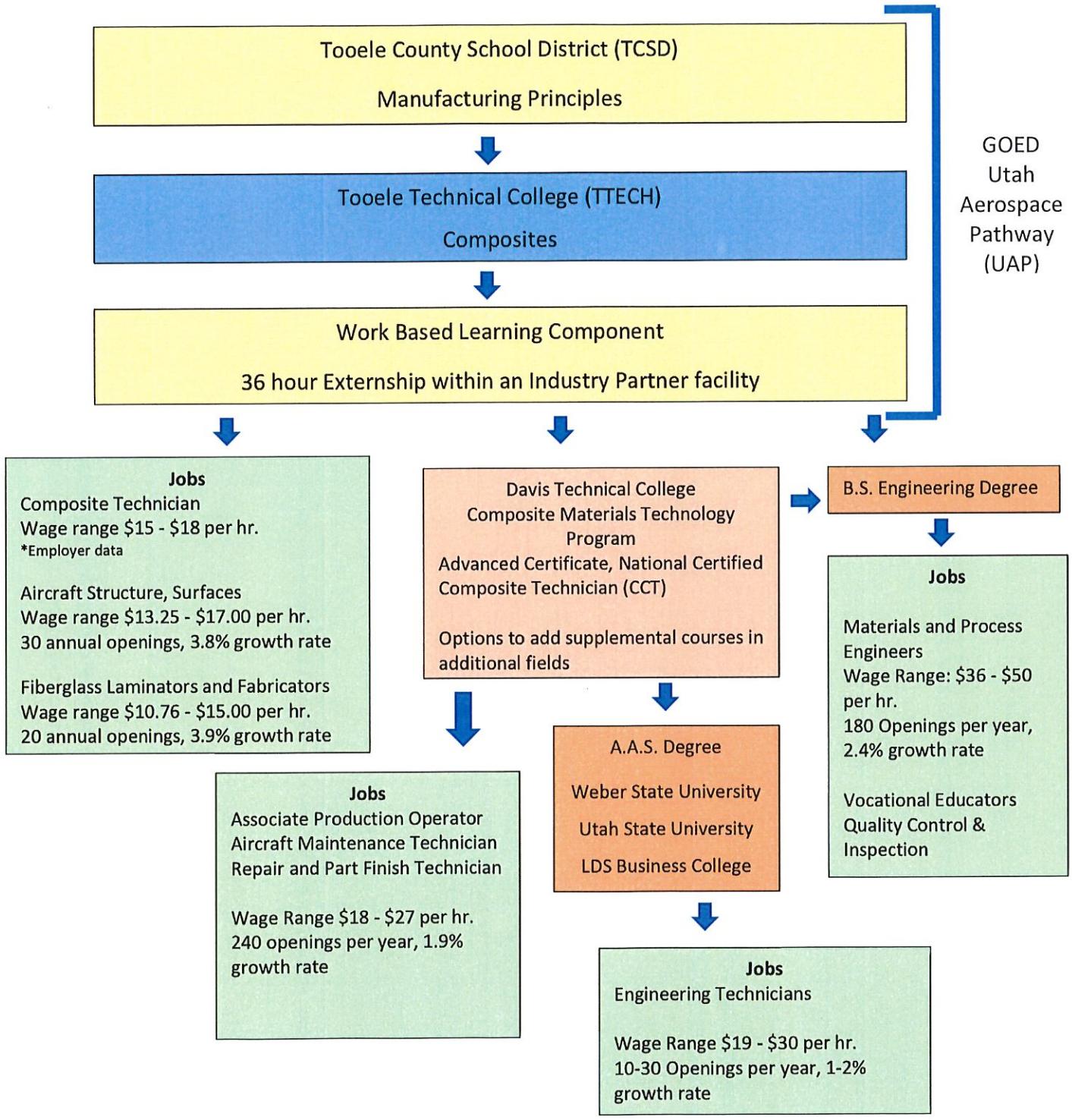


The Composite Materials Technology program at the TTECH prepares students to work in industries such as aerospace, automotive, bridge and building, marine, sporting goods, and parts assembly. This program consists of basic composites, techniques, and procedures. Here, the student will prepare themselves in an industrial hands on setting. The course will lead to state approved USBE course credit. Those who complete the pathway will be prepared for entry-level employment as a Composite Technician. Students will be taught industry standards concerning safety, composite terminology, hand lay-up, and composite inspection and repair.

This UAP course work is a part of the Completion of the Utah CTE Aerospace Manufacturing Career Pathway. Through the partnership with TCSD and TTECH this pathway will allow students to enter the job market and/or to transfer directly into the Composite Materials Technology program at Davis Technical College (DTC). This extended training provides options to graduates, including a certification, and increases their hiring potential with industry partners.

DTC has academic agreements in place with Weber State University, Utah State University, and LDS Business College which provides opportunities for students to articulate many of their courses for credit at these institutions. In addition, students who complete the DTC program with a certificate can articulate 30 credit hours towards an Associate of Applied Science degree at all three institutions. These academic agreements and stackable credentials offer a number of entry and exit points allowing students to apply for employment opportunities at every stage, with advanced certificates and degrees leading to higher wages.

STRATEGIC WORKFORCE ON-RAMPS



Employment Information Source: State of Utah Occupational Projections 2016 – 2026 (Salt Lake MSA)

Expected Enrollment

It is project that there will be 16 high school students who have participated in the TCSD Manufacturing Principles I course, which leads to Composites by Fall 2019. TCSD has an enrollment capability of 25 students in Manufacturing I each semester the course is offered. In partnership with TCSD it is expected to have 80% of those students go on to complete Composites at TTECH. On-going enrollment of 20 students is expected from Manufacturing Principles I to Composites as a part of the Utah CTE Aerospace Manufacturing Career Pathway. The course will also serve adult students in an Open Entry format from the Industrial Maintenance and Automation Technician program. Currently this program has an average enrollment of 40 adult students and it is expected that 10% of the students will enroll in the composite's courses. Adult students in an Open Entry format will make up an average of 4 – 6 or more adult student enrollments in the composite's courses.

Project Timeline

TTECH instructors are beginning curriculum development spring of 2019. Davis Technical College and Ogden Weber Technical college have agreed to provide training and job shadowing for TTECH instructors during spring semester 2019. After the legislative session, TTECH will be notified regarding the SWI grant proposal. With grant approval, the goal is from May to July 2019 work on the classroom and grind room in the Industrial Maintenance and Automation shop, which will be retrofitted to accommodate equipment, students and storage for Composites consumables and supplies along with the current courses offered in this space. Purchasing of equipment and supplies will commence in July of 2019. TTECH expects to have enrolled students in Composites starting their coursework Fall Semester, school year 2019-2020.

Industry Needs

Utah has one of the highest concentrations of advanced composite companies in the world and it is projected to grow. At present, according to the Governor's Office of Economic Development, there are 944 aerospace and defense industry establishments accounting for 31,390 employees. One of the major concerns facing this industry in Utah and elsewhere is the shortage of talented technicians necessary to supply the industry. With this proposal we are able to expand the GOED UAP program to Tooele County, assisting aerospace and defense organizations with their need to hire skilled applicants in the area of composites manufacturing.

Wage data provided online by the Utah Division of Workforce Services indicates that in related job classifications such as "Team Assemblers", "Fiberglass Laminators and Fabricators" and "Composites Technician" project annual openings of over 500 with an average wage of $15.00 - $18.00 per hour or $31,200 - $37,440 per year. While the data available does not specifically identify an Aerospace manufacturing position, the entry-level workforce pay expectations are a reliable amalgamation.

The GOED, 2017 annual report shows that aerospace and defense cluster continued growing, with increased growth year over year since 2013. The sector grew by 3.69% last year, a nearly 1% increase in growth over the previous year's growth rate. The definition used for aerospace and defense cluster has been broadened to ensure that it includes advanced manufacturing firms that serve all high technology industries in the state. Advanced manufacturing is a key industry drive for aerospace and defense and all strategic clusters.

Industries requiring employees skilled in Composite Materials Technology include; Aerospace, Manufacturing, Sporting Goods and Medical. A sampling of jobs within these industries are listed below.

- Aerospace parts and assemblies
- Automotive parts development
- Bridge and building renovation projects
- Composite sales and manufacturing
- Marine boat manufacturing
- Quality control and inspection
- Research and development assignments
- Sporting goods, skiing and bicycle component fabrication

Key Partners

Partner Type	**Partner**
Secondary	• Tooele County School District (TCSD)
Industry Trade Association(s)	• Albany Engineered Composites • Northrop Grumman Innovation Systems • Boeing • Janicki Industries • Hexcel • Stadler US Inc.
Government Agencies	• Utah State Board of Education (USBE) • Governor's Office of Economic Development (GOED) • Utah Department of Workforce Services

Budget Proposal

$221,500.00 is being requested to begin a new Composites program meeting USBE standards in partnership with TCSD as a part of the UAP and Utah CTE Aerospace Manufacturing Career Pathway. The majority of the funding is one-time funds needed for initial startup costs including, retrofit, and equipment needs. The remaining funds are needed ongoing to help with supplies and for salary and benefits to support a part time instructor at TTECH.

Below is a budget outline for the requested proposal:

Program Expense	**One Time Funding**	**Year One**	**Year Two**	**Year Three**	**Total**
Salary for Instructor	$0	$38,500	$38,500	$38,500	$115,500
TTECH Equipment	$74,000	$6,000	$10,000	$10,000	$100,000
Retrofitting Costs	$80,000	$0	$0	$0	$80,000
Curriculum & Curriculum Development	$5,000	$0	$0	$0	$5,000
Instructor Training	$	$8,000	$4,000	$4,000	$16,000
Course Supplies and Consumables	$	$10,000	$10,000	$10,000	$30,000
TOTAL	**$159,000**	**$62,500**	**$62,500**	**$62,500**	**$346,500**

*Equipment

- Oven, freezer, autoclave, layup tables for pre-preg
- Saws, sanders, drills, and hand/portable power tools for production and finish
- Filament winding machine
- Molds (4-5 mold types with 5-6 of each, some metal and some composites)
- Scales
- Solvent recycling apparatus
- Spray-up booth
- Storage racks (2-4 with capability of storing 4 rolls each)
- Vacuum pump (2 portable on roller tables)

*Retrofitting

- Positive pressure-introduced prep room, with refurbishment for consumable storage, layup, production, and finish. May include: electrical overhead for each table, elephant trunks for exhaust vented to outside over all tables, house air lines over all tables, with drying on lines, vacuum lines at each table, washing facility, etc.
- Production (used for cutting, sanding, etc., needs to be negative pressure to surrounding rooms, should have house vacuum with elephant trunks, exhaust hoods/dust collection for VOC, etc.)
- Solvent and resin storage areas
- Material and project storage areas

Appendix A – Attachments

Letters of Support

1. Tooele County School District
2. Albany Engineered Composites
3. Stadler US Inc.

Education Elevated

TOOELE COUNTY SCHOOL DISTRICT

December 20th, 2018

RE: Letter of Support for the Composites Lab program at Tooele Technical College

Dear President Hacking:

I am writing this letter to voice my support for Tooele Technical College and their application and vision for the Strategic Workforce Initiative Proposal-Composite lab. Tooele County School District values the partnership with Tooele Technical College and fully support the implementation of this new program.

As the CTE director, I have been working closely with TTECH on the development of a GOED Aerospace pathway in Tooele County. We have had strong industry support for this program and the data shows that this a strong workforce demand in the future for our students and community. The composites lab will be a vital part of the program. Students will gain valuable hands-on and direct industry training that is needed to lead directly to a technical career in Aerospace. Tooele County School District is fully committed to this program and the vision that TTECH has outlined.

TCSD fully supports Tooele Technical College in their application and implementation plan for the addition of a composites lab. We are excited to support local students in pursuing education in the Aerospace industry and teaming with industry partners in the area. TCSD and TTECH are committed to look for ways to help students receive quality training and meet their career goals. Please feel free to contact me for any further information.

Sincerely,

Kristy McLachlan
Career & Technical Education, Director
(435) 833-1900 ext. 1125

BOARD OF EDUCATION
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5995 W. Amelia Earhart Drive
Salt Lake City, UT 84116 USA

ALBANY
Engineered Composites

January 2, 2019

To Whom It May Concern:

Albany Engineered Composites supports the Utah Aerospace Pathways (UAP) program developed with Ogden-Weber College and Ogden School District. Our team has been closely involved in the UAP process and is interested in a program replication for Tooele County.

Albany Engineered Composites is a global, aerospace, defense, information, and services company. As a leading technology innovator, a technically skilled workforce is a necessity to meet our production demands. Offering an accelerated composites certificate with internship opportunities at the high school level will showcase the employment opportunities in the composites industry.

To ensure compliance to the UAP model, we commit to the following for successful implementation and sustainability:

- Identify the necessary skills and competencies to meet employer requirements and ensure compliance to the UAP framework
- Ongoing communication to refine training program and internship experience
- Participate in marketing and outreach efforts to support recruitment efforts at secondary and postsecondary levels
- If employment eligibility met, provide interview opportunity for completers of the accelerated composites certificate and full composites certificate
- If UAP framework is adhered to, offer minimum 40-hour internship opportunities for secondary and postsecondary students
- If hired, arrange for tuition reimbursement to support completion of the full composite certificate

Increasing the number of composites technician graduates responds to many companies in the region. Albany is interested in the development of the UAP model for the Tooele County students and looks forward to working with all project stakeholders.

Sincerely,

Guy Fowlks
Director, Human Resources

STADLER

January 3, 2019

To: Whom it may concern
RE: Tooele Tech Composites Pathway Program

To whom it may concern,

This letter is to express our support of TTECH and their desire to start a composites course in partnership with Tooele County School District.

Whereas our composites department isn't large at this time, most of our production jobs require basic competency in composites and adhesives. The trains we build for commuter systems nation-wide are high tech, high quality, state-of-the-art vehicles that adhere to Federal Rail Authority specifications. These specifications include both composites and adhesives. All of our production employees go through a basic course, however, it would be beneficial to our workforce and production needs to have students who completed this pathway.

As our new facility will be located within 15 miles of Tooele county our enthusiasm for potentially recruiting students in this tight market with this Pathway program in their portfolio excites us for the future.

We feel TTECH and their programs they offer are first rate and are thrilled that their location and demographic fits our needs perfectly.

www.stadlerrail.com/en

Warm Regards,

Megan Ware and Robin Patfield
Human Resources, Stadler US Inc

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