Eastern Shore Community College Creating Technical Scholars Project: Interim Evaluation Report

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EXECUTIVE SUMMARY

In 2017, Eastern Shore Community College (ESCC) established the Creating Technical Scholars (CTS): A Model for Structured Pathways project to develop a transition pathway from secondary to postsecondary education and to employment in the fields of science, technology, engineering, and math (STEM). To reach this goal, the CTS project seeks to achieve the following four objectives between fall 2017 and summer 2020:

1 **Design dual enrollment technical tracks** in specific career and technical education (CTE) programs for the region's high school students.

2 **Create a Technical Studies Associate of Applied Science (AAS) degree with tracks** in cybersecurity, industrial technology, HVAC, welding, and electricity.

3 **Establish articulation agreements** with regional 4-year colleges and universities for students wishing to pursue further education in technical studies fields.

4 **Devise career tracks** with business partners for students wishing to begin careers in technical studies fields after receiving a postsecondary credential.

This interim report details findings from the formative evaluation of the CTS project and describes the development of the project during its first year of implementation. The report also provides recommendations to guide project implementation moving forward.

The CTS project evaluation incorporates a mixed-methods approach and includes formative and summative questions to address program development, implementation, and preliminary outcomes. For this interim report, evaluators collaborated with the project team (who is overseeing the implementation of the CTS project) to distribute a personnel and partner survey in spring 2018 to individuals who were involved in the development and implementation of the project activities during the first year of the project. Evaluators also examined project-related documents.

The next section of the Executive Summary summarizes the evaluation findings for each of the four objectives and provides recommendations to guide project development moving forward.

1   DESIGN DUAL ENROLLMENT TECHNICAL TRACKS

RECOMMENDATIONS:

– *Continue outreach activities to inform students about STEM offerings at ESCC and foster increased participation in dual enrollment technical tracks to meet proposed enrollment benchmarks.*

– *Continue to foster strong partnerships with local high schools to better address any administrative and logistical challenges hindering the implementation of new dual enrollment technical tracks and courses.*

– *Refer to the existing dual enrollment program to ensure new dual enrollment technical tracks are of a similar quality and relevance.*

The CTS project aims to collaborate with local high schools to initiate three new dual enrollment technical tracks in specific CTE programs. Although no new dual enrollment technical tracks were initiated in year 1, plans are underway to offer two dual enrollment courses in year 2. Additionally, the project team offered 13 outreach activities to share information with stakeholders about the new dual enrollment tracks. ESCC's existing Dual Enrollment Program enrolled 16 students in spring 2018 and was generally considered a relevant, high-quality program.

KEY FINDING: Although no new dual enrollment technical tracks were initiated in year 1, the project team has made progress, despite several administrative challenges, and will begin to offer aligned dual enrollment courses incrementally in year 2. Additionally, there have been 13 events to share information with stakeholders about the new dual enrollment tracks.

2   CREATE A TECHNICAL STUDIES AAS DEGREE WITH TRACKS

RECOMMENDATIONS:

– *Capitalize on lessons learned during the development and approval of the Industrial Technology Track to ramp up the approval process of the additional Technical Studies AAS degree tracks.*

– *Continue to engage stakeholders in the implementation of the Industrial Technology Track.*

– *Ensure that all ESCC employees and faculty members are aware of the new degree track and its potential impacts.*

– *Consider suggestions from survey respondents to improve the Industrial Technology Track.*

– *Consider ways to ramp up student recruitment efforts for the new Industrial Technology Track courses available in fall 2018.*

The CTS project aims to develop and obtain approval of five new Technical Studies AAS degree tracks in industrial technology, cybersecurity, HVAC, welding, and electricity. The CTS project will assess program learning outcomes, develop promotional items, and conduct advising activities. During year 1, the project team decided to focus on developing just one new technical track— Industrial Technology—to streamline the approval process.

KEY FINDING: The project team sufficiently engaged stakeholders in the development of the first technical studies track—Industrial Technology—which is on target to offer courses in fall 2018. Most individuals who were involved in the Industrial Technology Track's development expect it to be a high-quality and beneficial program.

3 — ESTABLISH ARTICULATION AGREEMENTS

RECOMMENDATIONS:

– Continue to include regional 4-year college and university partners in the development and implementation of the new Technical Studies AAS degree programs to ensure that articulation agreements and transferability of coursework remain a part of the discussion.

The CTS project aims to establish articulation agreements with regional 4-year colleges and universities to extend the pathway for students who wish to pursue further education in technical studies fields. This objective is in the very early stages of development. According to ESCC documents, articulation agreements with regional 4-year colleges and universities are in progress as of spring 2018 but will likely not be finalized until year 2 or year 3.

KEY FINDING: As expected, articulation agreements will not be finalized until year 2 or year 3 of the project.

4 — DEVISE CAREER TRACKS

RECOMMENDATIONS:

– Partner with other interested parties to identify and solicit additional employers in the local area to increase the number of business partners and potential employment opportunities.

– Maintain current business partners' engagement in the development of new experiences and opportunities for students.

– Increase the number of opportunities available to students and diversify opportunities beyond internships.

The CTS project aims to devise career tracks with business partners for students who have earned a postsecondary credential and are seeking to begin a career in a technical studies field. Career tracks are currently being developed, and 13 students will have participated in an internship or the RockOn! workshop by the end of year 1. To develop career tracks, the project team has engaged organizations that have provided internships and assisted with the Developing a Curriculum (DACUM) thus far. Additionally, partners are willing to offer graduates from the new Technical Studies AAS degree tracks experiences and support, primarily through internships and jobs.

KEY FINDING: Career tracks are being developed, and students are participating in internships and RockOn! workshops. Additionally, the CTS project has business, industry, and government partners who are engaged in the process and willing to offer students work-based experiences.

ACKNOWLEDGMENTS

We would like to acknowledge the many project partners and survey respondents who contributed to the evaluation. Thanks to the project team at Eastern Shore Community College (ESCC), including John Floyd, Janet Rieben, Teresa Guy, Eve Belote, and Deborah Daniels, for their support and coordination of evaluation activities, involvement in instrument development, and data collection. Special thanks to all the business, industry, and government partners, secondary-education partners, high school career coaches, ESCC employees, and university partners who contributed to the development of the Technical Studies AAS degree tracks and provided valuable feedback on the spring 2018 personnel and partner survey. Finally, we are grateful for members of the Magnolia team who supported this work.

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PROJECT DESCRIPTION

Eastern Shore Community College (ESCC) is located in an area with higher diversity and poverty, and lower educational attainment, than the rest of Virginia and the United States as a whole. However, there is local workforce demand for qualified employees in the science, technology, engineering, and math (STEM) fields (ESCC NSF-ATE Proposal, 2016, p. 6). With funding from the National Science Foundation's Advanced Technological Education (NSF-ATE) program, ESCC developed a new project called Creating Technical Scholars (CTS): A Model for Structured Pathways to bridge this gap. The CTS project aims to develop a transition pathway from secondary to postsecondary education and to employment in STEM fields. The CTS project's overarching goal is:

> " to increase student success and completion by establishing pathways for students to earn post-secondary credentials leading to employment and/or baccalaureate degrees."

To reach this goal, the CTS project seeks to achieve the following four objectives:

Objective 1. Design dual enrollment technical tracks in specific career and technical education (CTE) programs for the region's high school students.

Objective 2. Create a Technical Studies Associate of Applied Science (AAS) degree with tracks in cybersecurity, industrial technology, HVAC, welding, and electricity.

Objective 3. Establish articulation agreements with regional 4-year colleges and universities for students wishing to pursue further education in technical studies fields.

Objective 4. Devise career tracks with business partners for students wishing to begin careers in technical studies fields after receiving a postsecondary credential.

The project team is overseeing the implementation of the CTS project. As part of that role, the project team developed a logic model (see Appendix A) that shows that the CTS objectives and activities target several outcomes, including increasing high school students' awareness of STEM offerings, increasing enrollment in dual enrollment technical courses, and increasing the number of high school students entering STEM fields at ESCC. The CTS project also intends to increase the number of students enrolled in technical studies and the number of students who complete the Technical Studies AAS degree. Lastly, the project aims to increase access to internships and increase the number of students employed with industry partners, with the goals of expanding economic development, meeting employer needs, and improving graduate job opportunities.

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EVALUATION BACKGROUND

This interim report details findings from the formative evaluation of the CTS project and describes the development of the project during its first year of implementation. It also provides recommendations to the project team to guide implementation moving forward. To this end, the overall evaluation design aligns with the four objectives of the CTS project. Below is a sample of the corresponding formative evaluation questions for each objective (see Appendix A for all evaluation questions):

1 **Design Dual Enrollment Technical Tracks**

Are outreach programming, workshops, and other activities offered to share information about the project?

How is the project developing and progressing regarding the intended number and nature of high school student participants in the dual enrollment technical tracks?

Do personnel and students perceive the dual enrollment technical tracks as high quality and relevant to their educational and vocational goals?

2 **Create Technical Studies AAS Degree Tracks**

Is a Technical Studies AAS degree program developed and implemented that offers tracks in cybersecurity, electricity, HVAC, industrial technology, and welding?

Do personnel and students perceive the AAS program as high quality and relevant to students' educational and vocational goals?

3 **Establish Articulation Agreements**

Are articulation agreements established with regional 4-year colleges and universities for students seeking to pursue further education in technical studies fields? What 4-year institutions participate?

Do personnel and students perceive the articulation agreements as useful in helping students achieve their educational and vocational goals?

4 **Devise Career Tracks**

Are career tracks with business partners developed for students seeking to begin careers in technical studies fields after receiving a postsecondary credential? What types of experiences and support are offered?

Do personnel and students perceive the work-based learning experiences as high quality and relevant to students' vocational goals?

Magnolia Consulting is serving as the external evaluator for this project and is collaborating with the project team on instrument design and data collection. The evaluation period for the CTS project extends from August 2017 to September 2020.

METHODS

The CTS project evaluation incorporates a mixed-methods approach and includes formative and summative questions to address program development, implementation, and preliminary outcomes. Primary data collection methods for this interim report include:

Personnel & Partner Survey

Evaluators distributed the personnel and partner survey to individuals who were involved in the development and implementation of the project activities during the first year. The spring 2018 personnel and partner survey contained questions about three of the four program objectives, including the dual enrollment technical tracks, the new Technical Studies AAS degree tracks, and career tracks. This survey did not include questions about the fourth objective, regarding articulation agreements, because this portion of the project is still in the early stages of development. Survey questions pertained to various aspects of the project activities, including survey respondents' awareness of the project and perceptions of program quality, utility, and development. Evaluators will also distribute the personnel and partner survey in spring 2019 and spring 2020.

Document Review

Evaluators worked collaboratively with the project team to access and examine project-related documents, including:
- project call notes from the project team,
- a project activities log,
- a data collection tool (documenting enrollment numbers and outreach activities),
- meeting agendas and minutes,
- college materials (e.g., website and course catalog), and
- other relevant documents.

In subsequent project years, a student survey will also be distributed. This survey was not distributed in spring 2018 because of the project's early stage of development. See Appendix A for a more detailed discussion of methods and instruments.

EVALUATION FINDINGS OVERVIEW

This section describes the evaluation findings for each of the CTS project's four objectives during the first year of implementation. Each subsection focuses on one objective and describes the relevant findings, using data from the personnel and partner survey and the review of documents from August 2017 to May 2018.

A total of 27 respondents completed the personnel and partner survey in April 2018, yielding a response rate of 87%. Respondents replied to those questions that were relevant to their roles. Of these respondents:[1]
- 8 were ESCC employees (30%);
- 7 were secondary-education partners (26%);
- 6 were business, industry, or government partners (22%);
- 4 were on the project team (15%);
- 2 were high school career coaches (7%); and
- 2 were university partners (7%).

Although some progress was made for each of the objectives during year 1, the project team primarily focused on the development of the Industrial Technology Track within the Technical Studies AAS degree program. The Industrial Technology Track is on target to offer courses in the fall 2018 semester. Following this degree track, the project team plans to obtain approval for the other Technical Studies AAS degree tracks and make further progress on the three remaining objectives. Below are the main findings for each objective.

YEAR 1 EVALUATION FINDINGS

1. **Design Dual Enrollment Technical Tracks.** Although no new dual enrollment technical tracks were initiated in year 1, the project team has made progress in this area, despite several administrative challenges, and will begin to offer aligned dual enrollment courses incrementally in year 2. Additionally, there have been 13 events to share information with stakeholders about the new dual enrollment tracks.

2. **Create Technical Studies AAS Degree Tracks.** The project team sufficiently engaged stakeholders in the development of the first technical studies track, Industrial Technology, which is on target to offer courses in fall 2018. Most individuals who were involved in the Industrial Technology Track's development expect it to be a high-quality and beneficial program.

3. **Establish Articulation Agreements.** As expected, articulation agreements will not be finalized until year 2 or year 3 of the project.

4. **Devise Career Tracks.** Career tracks are being developed, and students are participating in internships and RockOn! workshops. Additionally, the CTS project has business, industry, and government partners that are engaged in the process and willing to offer students work-based experiences.

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[1] Total is greater than 100% because respondents could select more than one role.

1 FINDINGS: DESIGN DUAL ENROLLMENT TECHNICAL TRACKS

The purpose of ESCC's Dual Enrollment Program is to offer local high school students the opportunity to enroll early in rigorous college courses taught by credentialed faculty—at ESCC, at their high school, or online—and simultaneously earn college and high school credit. Dual enrollment provides high school students with a pathway to postsecondary education with the support of high school and college staff. The CTS project proposed to collaborate with local high school staff to develop and initiate one new dual enrollment technical track each project year in specific CTE programs, and conduct outreach to high school students. For this report, evaluators reviewed documents regarding the development of the new dual enrollment technical tracks. Additionally, on the spring 2018 personnel and partner survey, 19 respondents—whose project roles included secondary-education partners, high school career coaches, ESCC employees, and project team members—shared information about the existing Dual Enrollment Program. This provided evaluators with the following baseline information and formative feedback to help guide the development of the new dual enrollment technical tracks.

No new dual enrollment technical tracks were initiated, but plans are underway for new courses in year 2.

In year 1, no new dual enrollment technical tracks were initiated. However, the project team has made some progress toward new dual enrollment course offerings. For example, plans are underway to offer two new dual enrollment courses at Northampton High School in year 2. Both of these courses are aligned to the Industrial Technology Track.

There are administrative challenges associated with developing and implementing the new dual enrollment technical tracks.

There have been some administrative and logistical challenges to offering new dual enrollment technical tracks, including:

- **A lack of course designations:** For example, it is challenging to offer an Occupational Safety and Health Administration (OSHA) course because the high school does not have a course designation for this type of class.
- **Course alignment difficulties:** For example, the project team found it administratively challenging to change one high school course's number to align with the community college course's number.
- **Enrollment hurdles:** For example, high school students may need to be enrolled at their high school and at ESCC to take dual enrollment courses. Enrolling at ESCC would likely require an ESCC application and might also require placement testing (the project team plans to meet with student services about this issue).

These types of challenges can prevent or delay the development and implementation of the new dual enrollment technical tracks. For instance, the project team made efforts to establish a welding dual enrollment track but faced obstacles that may keep this track from being finalized. The project team has developed strong partnerships, and the team plans to continue moving forward, adding courses incrementally and addressing any additional challenges as they arise.

ESCC shared information about the new dual enrollment technical tracks at 13 events.

During year 1, ESCC documents indicated that the CTS project offered 13 outreach activities to share information about the dual enrollment technical tracks. Based on meeting agendas and minutes, two events in particular—the Curriculum Development Workshop in November 2017 and the Creating Technical Scholars Advisory Meeting in February 2018—included some discussions on the development of the dual enrollment technical tracks.

Several outreach activities reached precollege students.

As expected, the CTS project did not enroll any high school students in the new dual enrollment technical tracks or have any matriculating students in year 1. However, there were several outreach activities in April and May 2018 aimed at increasing precollege students' awareness of STEM offerings at ESCC, including:

- a discussion with 28 high school students in two dual enrollment courses,
- an ESCC tour of relevant areas for high school students, and
- a presentation to middle school parents on STEM Saturday at ESCC.

Sixteen students participated in the existing dual enrollment program in spring 2018.

Based on ESCC documents, 16 (94% male) students participated in ESCC's existing Dual Enrollment Program during the spring 2018 semester.

Of the 19 survey participants who responded to the questions regarding the existing Dual Enrollment Program, three indicated they did not know the quality of the existing dual enrollment tracks, and two did not know the tracks' relevance to students. Eighty-seven percent of the remaining respondents (n = 16) perceived the existing dual enrollment tracks as *high quality* or *very high quality,* and all of the remaining respondents (n = 17) perceived them as *relevant* (71%) or *somewhat relevant* (29%) to students' educational and vocational goals.

Existing dual enrollment tracks are generally perceived as high quality and relevant.
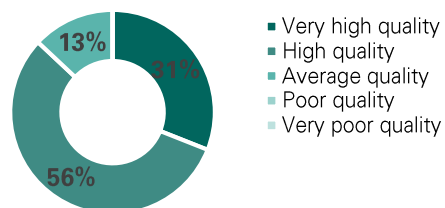
Figure 1. Respondents' perceptions of the quality of the existing dual enrollment tracks (n=16).
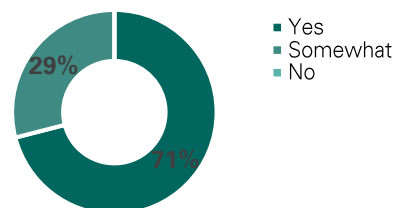
Figure 2. Respondents' perceptions of the relevance of the existing dual enrollment tracks (n=17).

Respondents who rated the quality of the existing dual enrollment tracks as *average* noted that the quality could be improved by apprenticeships, engagement with local employers, or more rigorous training by instructors. Those respondents who found the existing dual enrollment tracks to be *somewhat relevant* indicated that they could be made more relevant to students' educational and career goals by including (a) more job exposure or experiences, (b) new CTE or technical pathways, or (c) a more comprehensive curriculum.

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2 FINDINGS: CREATE TECHNICAL STUDIES AAS DEGREE TRACKS

The project team aims to develop and obtain approval of five new Technical Studies AAS degree tracks, in industrial technology, cybersecurity, HVAC, welding, and electricity. The CTS project will assess program learning outcomes, develop promotional items, and conduct advising activities. The project will target students who have completed existing certificate programs in these areas or have finished a dual enrollment technical track. During year 1, the project team modified the original plan to work on all five tracks and instead focused on one new technical track—Industrial Technology—to streamline the approval process. The findings below are based on document review and the 2018 personnel and partner survey, which collected data about the development of the new Industrial Technology Track from all 27 respondents.

The first technical studies track is on target to offer courses in fall 2018.

During year 1, the Industrial Technology Track curriculum was developed in collaboration with stakeholders. Although the new Industrial Technology Track has not been officially approved at the time of this report, the program is on track to offer courses in fall 2018 and already appears in the fall course catalog (marked as "pending approval"). The project team is currently collecting letters of support from students and industry. The new technical studies tracks in HVAC, welding, and electricity are already developed and will be subject to approval in subsequent project years. The development of a cybersecurity track has been more challenging and will likely take more time to develop and implement.

Respondents generally shared positive ratings regarding their involvement in the development of the Industrial Technology Track.

As part of the development of the new Industrial Technology Track, the CTS project hosted two advisory meetings: one in November 2017 and one in February 2018. Of the survey respondents, 93% attended at least one of these meetings. Using a 5-point Likert scale (1 = *to no extent*, 2 = *to a small extent*, 3 = *to some extent*, 4 = *to a large extent*, 5 = *to a very large extent*), respondents generally indicated they perceived the meeting(s) to be productive *to a large* or *very large extent*.

Respondents were involved in the development of the new Industrial Technology Track in other ways as well. Of the respondents, 52% discussed the track with others, 44% participated in email exchanges, and 41% reviewed documents or materials. Using the same 5-point Likert scale, the majority of respondents indicated that they generally felt their input regarding the development of the new Industrial Technology Track was valued *to a large* or *very large extent*. They also generally indicated that the relevant documents and materials were useful, and they understood the objective of the planning and development process *to a large* or *very large extent* (see Figure 3).

Legend: ■ To No Extent ■ To a Small Extent ■ To Some Extent ■ To a Large Extent ■ To a Very Large Extent

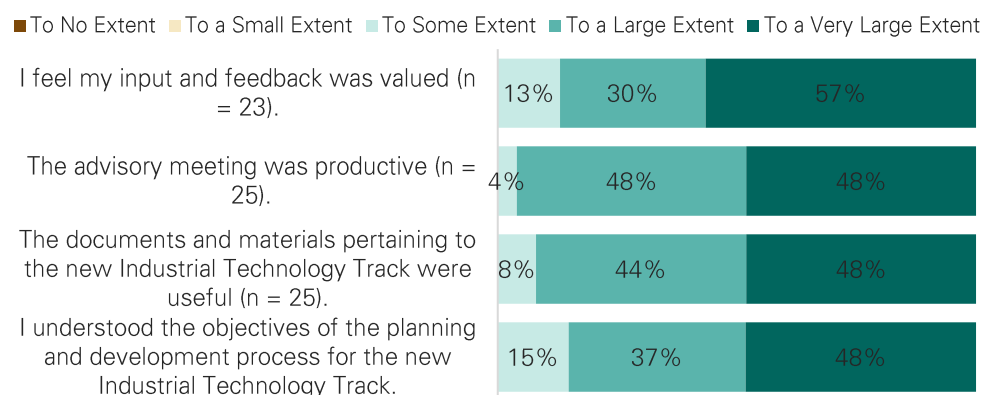| Statement	To Some Extent	To a Large Extent	To a Very Large Extent
I feel my input and feedback was valued (n = 23).	13%	30%	57%
The advisory meeting was productive (n = 25).	4%	48%	48%
The documents and materials pertaining to the new Industrial Technology Track were useful (n = 25).	8%	44%	48%
I understood the objectives of the planning and development process for the new Industrial Technology Track.	15%	37%	48%

Figure 3. Respondents' mean ratings of their experiences and perceptions regarding the development of the new Industrial Technology Track on a 5-point scale (n = 27).

Over half of the respondents are interested in serving on the Advisory Board.

Of the 27 respondents, 56% indicated that they are interested in serving on the Advisory Board for the new Industrial Technology Track, and 19% were undecided.

Respondents expect the Industrial Technology Track to be a high-quality program with a pathway to upper-division credits.

On the same 5-point Likert scale, nearly all respondents (96%) indicated that the new Industrial Technology Track will *to a large* or *very large extent* be a high-quality program. Additionally, the project team and university partner respondents shared that the new Industrial Technology Track will *create* (83%) or *somewhat create* (17%) a pathway to upper-division credits. One respondent explained that it will somewhat create a pathway to upper-division credits because while the courses are more transferable, there are no formal articulation agreements yet.

Twenty-two percent of all respondents provided suggestions to improve the new Industrial Technology Track. These suggestions included:

- creating awareness programs geared toward high school students and the community;
- teaching soft skills (e.g., communication and teamwork) to create lifelong learners;
- acquiring more training equipment; and
- creating a branch of the Industry Technology Track to train qualified technical teachers in order to address a shortage of these teachers and promote program sustainability at the high school level.

There were several suggestions to improve the Industrial Technology Track.

Additionally, following a CTS meeting, 15 participants provided feedback about the meeting and shared thoughts about what was not covered at the meeting, suggestions that needed follow-up, and ideas discussed during the meeting that they hoped ESCC would apply, including:

- **High schools:** increasing enrollment and collaboration with local high schools, incorporating high schools into the pathway, and promoting CTE programs at the high school level.
- **Coursework or programs:** adding cybersecurity, computer numerical control courses or training, machinists tracks, and a track to train CTE educators.

- **Communication**: ensuring communication between instructors so they can share ideas and thoughts (e.g., a regular meeting).
- **Local industries:** reaching out to industries to assess needs and discuss sponsorship of classes, hosting an industry day, learning about other companies' internships, and accessing data on workforce demand.
- **Work-based experiences:** providing course credits for internships and real-world experiences.

Among ESCC employees, there is awareness of the new Industrial Technology Track.

Of the eight ESCC employee respondents, 75% are aware and 25% are somewhat aware of the new Industrial Technology Track.

Half of the faculty members expect their courses or schedules to be impacted, and half are unsure.

Seventy-five percent of the ESCC employee respondents are faculty who teach a variety of classes, including electricity, computers, welding, and HVAC. Half of these faculty members expect that the new Industrial Technology Track will impact their courses or teaching schedules. Of these faculty members, 67% indicated they will teach different courses, 33% will teach a different number of courses, and 33% will have their course curricula change. None of them indicated that they will need additional industry certifications. The remaining half are unsure if this new degree track will impact their courses and schedules.

Most business, industry, and government partners expect to benefit from the new Industrial Technology Track.

Of the six business, industry, and government partner respondents, five indicated that their business will benefit from the new Industrial Technology Track in several ways, including:

- an established pipeline of quality employees and interns,
- a full degree instead of a certificate, and
- courses that are relevant to industry needs.

The sixth partner did not know if their business would benefit or not.

> *The technical track is important by including education courses that are relevant to the local industry needs. ESCC has provided numerous students for our Intern Program, many of whom became and remain employees. The expansion of the program will foster this impact in the years to come.*

The Industrial Technology Track did not reach any ESCC students in year 1, but recruitment efforts are in place.

Since the new Industrial Technology Track will not be offered until the fall 2018 semester at the earliest, the new tracks have not yet reached any ESCC students. Three of the project team members expect about five to eight students to enroll in the first year of the Industrial Technology Track. The project team has student recruitment efforts in place that include high school recruiting (e.g., career coaches, field trips, emails), on-campus recruiting (e.g., classroom visits, campus emails), and advertising. The nature of students in the Industrial Technology Track will be examined in future project years.

There were four promotional activities for the technical studies degree tracks.

Based on ESCC documents, there were four promotional activities for the technical studies degree tracks—two in November 2017 and two in April 2018. These events included, among others, a STEM Saturday event and an introduction to STEM initiatives event for high school students.

3 FINDINGS: ESTABLISH ARTICULATION AGREEMENTS

The CTS project aims to establish articulation agreements with regional 4-year colleges and universities to extend the pathway for students who wish to pursue further education in technical studies fields. Additionally, the project intends to present and promote these new articulation agreements through various activities, such as college visits, college fairs, and "Lunch and Learn" events. This objective is in the very early stages of development. According to ESCC documents, articulation agreements with regional 4-year colleges and universities are in progress as of spring 2018 but likely will not be finalized until year 2 or year 3. Notably, this objective has been a consideration in the development of the new Technical Studies AAS degree programs. For example, based on meeting minutes, key stakeholders discussed the importance of the transferability of the new Technical Studies AAS degree programs and courses to 4-year colleges and universities. The project team also explained that the local 4-year colleges and universities are aware of these future articulation agreements. Subsequent reports will discuss the articulation agreement objective in more depth.

FINDINGS: DEVISE CAREER TRACKS

The CTS project aims to devise career tracks with business partners for students who have earned a postsecondary credential and want to begin a career in a technical studies field. To achieve this objective, the CTS project intends to identify and engage all potential employers, provide students with résumé assistance and mock interview experiences, support career exploration opportunities, identify cocurricular activities, and pilot rotating internship placements. At this stage of the project, the evaluation is primarily focused on the business partnerships and the development of the career tracks. The findings below are based on documents and the spring 2018 personnel and partner survey, which gathered information about the development of the career tracks from six business, industry, and government partners and four project team members.

Career tracks are being developed.

ESCC documents indicate that career tracks were being developed in the spring 2018 semester for students seeking to begin careers in a technical studies field. For example, ESCC met with the National Oceanic and Atmospheric Administration (NOAA) to plan for intern placements and composed a memorandum of understanding for an internship program with Wallops Command and Data Acquisition Station.

Thirteen students will have participated in work-based learning experiences by the end of year 1.

ESCC documents show 10 students from existing certificate programs participated in internships during the fall 2017 and spring 2018 semesters. Three more students will be attending the RockOn! workshop in June 2018. No students were noted as participating in workplace tours, engaging in job shadowing, or attending conferences.

ESCC is currently collaborating with organizations to provide internships and assist with the curriculum.

Most members of the project team were unaware of how many business, industry, or government partners are collaborating with ESCC to implement career tracks, but there was one report of six partners. These partners were described as organizations (for-profit or nonprofit) that provide internships or assist with the Developing a Curriculum (DACUM). The project aims to increase the number of these partners each year.

All six business partners are willing to offer student experiences and support, primarily through internships and jobs.

All six business, industry, and government partners who responded to the survey shared that their business or organization is willing to offer students who graduate from the new Technical Studies AAS degree track various experiences and support, including:
- internships (100% of partners),
- jobs (67% of partners),
- field trips (50% of partners),
- opportunities to conduct classroom presentations (50% of partners),
- internship stipends (50% of partners),
- opportunities to attend career fairs or events (33% of partners),
- donations of training equipment and supplies (33% of partners), and
- other (17%), described as connections to grants and various programs.

Most of these partners were unable to estimate how many students will participate in these experiences and opportunities.

SUMMARY & RECOMMENDATIONS

The CTS project aims to develop a transition pathway from secondary to postsecondary education and to employment in technical studies fields. To achieve this outcome, the CTS project has four objectives: 1) design dual enrollment technical tracks in specific CTE programs for the region's high school students; 2) create a Technical Studies AAS degree program with tracks in industrial technology, cybersecurity, HVAC, welding, and electricity; 3) establish articulation agreements with regional 4-year colleges and universities for students wishing to pursue further education in technical studies fields; and 4) devise career tracks with business partners for students wishing to begin careers in technical studies fields after receiving a postsecondary credential. This section summarizes the evaluation findings for each of the four objectives. Based on these findings, evaluators developed recommendations to help guide project implementation moving forward.

1 DESIGN DUAL ENROLLMENT TECHNICAL TRACKS

The project team planned to collaborate with local high schools to develop and initiate one of three new dual enrollment technical tracks each project year in specific CTE programs, and to conduct outreach to high school students. Although no new dual enrollment technical tracks have been initiated in year 1, the project team has made progress and, despite several administrative challenges, will begin to offer dual enrollment courses incrementally in year 2. Additionally, ESCC offered 13 outreach activities to share information with stakeholders about new dual enrollment technical tracks. Evaluators also examined information about ESCC's existing Dual Enrollment Program and found that 16 students were enrolled in spring 2018. Survey respondents generally indicated that the existing dual enrollment tracks are of high quality and relevant. Based on these findings, evaluators make the following recommendations:

- Continue outreach activities to inform students of STEM offerings at ESCC and foster increased participation in dual enrollment technical tracks to meet proposed enrollment benchmarks.
- Continue to foster strong partnerships with local high schools, as this may be helpful when addressing potential administrative and logistical challenges hindering the implementation of new dual enrollment technical tracks and courses.
- The current dual enrollment tracks were generally rated as high quality and relevant. As new dual enrollment technical tracks are developed, refer to existing programs to ensure similar quality and relevance. For further improvement, consider the following suggestions from survey respondents:
    - Engage local employers to a greater extent and provide students with more job exposure and experiences,

- Encourage instructors to provide rigorous training for all dual enrollment tracks,
- Ensure that all curricula are comprehensive,
- Create apprenticeship opportunities, and
- Continue to develop new CTE or technical pathways.

2 CREATE TECHNICAL STUDIES AAS DEGREE TRACKS

The project team aims to develop and obtain approval of five new Technical Studies AAS degree programs, in industrial technology, cybersecurity, HVAC, welding, and electricity. The development of new technical studies tracks progressed in year 1, and the first technical studies track—Industrial Technology—is on target to offer classes in fall 2018. The project team engaged key stakeholders in the development process, and these stakeholders positively rated their involvement in the process and expect the program to be of high quality. Over half of the survey respondents are interested in continuing their involvement by serving on the Advisory Board. Among ESCC employee respondents, there is awareness of the Industrial Technology Track, and it is likely to impact faculty members' courses and schedules. Based on these findings, evaluators have the following recommendations:

- Capitalize on lessons learned during the development and approval of the Industrial Technology Track to ramp up the approval process of the additional Technical Studies AAS degree tracks.
- Continue to engage stakeholders in the implementation of the Industrial Technology Track. For example, establish an Advisory Board with those who are interested in participating. Stakeholder involvement is important, as ESCC and business, industry, and government partners stand to benefit from these partnerships.
- Consider additional communications about the program and its impact on faculty and staff to ensure that all ESCC employees and faculty members are aware of the new degree track and its potential impacts.
- Consider suggestions from respondents for improving the Industrial Technology Track, including creating more awareness programs geared toward high school students and the community, teaching soft skills, acquiring more training equipment, and training qualified teachers in the Industrial Technology Track.
- Because student enrollment is important to the sustainability of the Industrial Technology Track, consider ways to ramp up student recruitment efforts for the new Industrial Technology Track courses available in fall 2018.

3 ESTABLISH ARTICULATION AGREEMENTS

The CTS project aims to establish articulation agreements with regional 4-year colleges and universities to extend the pathway for students who wish to pursue further education in technical studies fields. This objective is in the very early stages of development. According to ESCC documents, articulation agreements with regional 4-year colleges and universities

are in progress but will likely not be finalized until year 2 or year 3. Additionally, the articulation agreements have been a consideration in the development of the new Technical Studies AAS degree programs. Based on these findings, evaluators recommend the following:

- Continue to include regional 4-year college and university partners in the development and implementation of the new Technical Studies AAS degree programs to ensure that articulation agreements and transferability of coursework remain a part of the discussion.

4 DEVISE CAREER TRACKS

The CTS project aims to devise career tracks with business partners for students who have earned a postsecondary credential and are seeking to begin careers in technical studies fields. At this stage of the project, this evaluation focused on the business partnerships and on development of the career tracks. As of spring 2018, career tracks are being developed. To aid in the development of these career tracks, the project team has engaged organizations that have provided internships and assisted with the DACUM. Partners are willing to support graduates of the new Technical Studies AAS degree tracks with experiences and opportunities, primarily through internships and jobs. And ESCC has been working with at least two local organizations on intern placements and programs. In year 1, 10 students from existing certificate programs participated in internships during the 2017–2018 academic year, and three more students will attend the RockOn! workshop in June 2018. Based on these findings, evaluators recommend that the project team:

- Partner with interested parties to identify and solicit additional employers in the local area to increase the number of business partners and potential employment opportunities.
- Maintain current business partners' engagement in the development of new experiences and opportunities for students.
- Increase the number of opportunities available to students and diversify opportunities beyond internships. For example, the project team could consider:
  - Exploring experiences and support opportunities that business, industry, and government partners have indicated they are willing to offer students graduating from the new Technical Studies AAS degree tracks (such as jobs, field trips, and opportunities to conduct classroom presentations).
  - Continuing the plan to identify cocurricular activities and pilot rotating internship placements.

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APPENDIX A. EVALUATION METHODS

EVALUATION QUESTIONS

The evaluation of the CTS project focuses on the project's four main objectives. The following summarizes the key formative and summative evaluation questions for each objective, as well as the relevant indicators, data sources, and timing of data collection.

Objective 1: Design dual enrollment technical tracks in specific career and technical education programs for the region's high school students.

Evaluation Questions	Indicator	Data Source	Timing
Formative Evaluation Questions			
Are outreach programming, workshops, and other activities offered to share information about the project?	# of outreach programs, workshops, and activities Descriptions of outreach programs, workshops, and activities	ESCC documents	Semester
How is the project developing and progressing regarding the intended number and nature of high school student participants in the dual enrollment technical tracks?	# of high school students Description of high school students	Personnel & partner survey ESCC documents	Semester/Annually
Do personnel and students perceive the dual enrollment technical tracks as high quality and relevant to students' educational and vocational goals?	Quality item bank Goals item bank	Personnel & partner survey Student survey	Annually
Summative Evaluation Questions			
Throughout the course of the project, does high school student participation in dual enrollment technical tracks increase?	# of high school students	ESCC documents Student lists	Annually
Does the percentage of matriculating students from area high schools who major in STEM fields increase throughout the project?	# of matriculating students # of students in STEM	ESCC documents	Annually

Evaluation Questions	Indicator	Data Source	Timing
Do dual enrollment technical track participants report gains in technical knowledge, STEM skills, and vocational self-efficacy?	Knowledge & skills item bank	Student survey	Annually
Do dual enrollment technical track participants report increases in the likelihood that they will pursue additional educational opportunities in the future?	Future aspirations item bank	Student survey	Annually

Objective 2: Create a Technical Studies associate degree with tracks in cybersecurity, industrial technology, HVAC, welding, and electricity.

Evaluation Questions	Indicator	Data Source	Timing
Formative Evaluation Questions			
Is a Technical Studies AAS degree program developed and implemented that offers tracks in cybersecurity, electricity, HVAC, industrial technology, and welding?	Yes/No	ESCC documents	Annually
Does the program target students who have completed ESCC's current programs and high school students who have received advanced placement in technical studies fields?	Description of target students % of target students who have received advanced placement in technical studies fields	Personnel & partner survey ESCC documents	Annually
How is the AAS program promoted?	Descriptions of promotional campaigns and recruitment efforts	Personnel & partner survey ESCC documents	Semester/Annually
How do students learn about it?	How did you hear about the program?	Student survey	Annually
How does the project develop and progress regarding the intended number and nature of participants in the AAS program?	# of students in AAS program Description of	Personnel & partner survey ESCC documents	Semester/Annually

Evaluation Questions	Indicator	Data Source	Timing
	participants in AAS program		
Does the program create a pathway to upper-division studies?	Yes/No	Personnel & partner survey	Semester/Annually
What are the number and nature of participants in upper-division studies?	# of students in upper-division studies Description of participants in upper-division studies	ESCC documents	Semester/Annually
Do personnel and students perceive the AAS program as high quality and relevant to students' educational and vocational goals?	Quality item bank Goals item bank	Student survey	Annually
Summative Evaluation Questions			
Throughout the course of the project, does student participation in the AAS program increase?	# of participants	ESCC documents	Annually
Do participants in the AAS program report gains in technical knowledge, STEM skills, and vocational self-efficacy?	Knowledge & skills item bank	Student survey	Annually
Do participants in the AAS program report increases in the likelihood that they will pursue additional educational opportunities in the future?	Future aspirations item bank	Student survey	Annually

Objective 3: Establish articulation agreements with regional 4-year colleges and universities for students wishing to pursue further education in technical studies fields.

Evaluation Questions	Indicator	Data Source	Timing
Formative Evaluation Questions			
Are articulation agreements established with regional 4-year colleges and universities for students seeking to pursue further education in technical studies fields?	Yes/No	ESCC documents	Annually

Evaluation Questions	Indicator	Data Source	Timing
What 4-year institutions participate?	Names of 4-year institutions	ESCC documents	Annually
How are these agreements and transfer opportunities communicated to educators and students?	Description of communications	ESCC documents Personnel & partner survey	Annually
Do personnel and students perceive the articulation agreements as useful in helping students achieve their educational and vocational goals?	Goals item bank	Personnel & partner survey Student survey	Annually
Summative Evaluation Questions			
How many AAS graduates transfer into baccalaureate programs?	# of AAS graduates who transfer	ESCC documents	Annually
Does this number increase throughout the project?	# of AAS graduates who transfer	ESCC documents	Annually

Objective 4: Devise career tracks with business partners for students wishing to begin careers in technical studies fields after receiving a postsecondary credential.

Evaluation Questions	Indicator	Data Source	Timing
Formative Evaluation Questions			
Are career tracks with business partners developed for students seeking to begin careers in technical studies fields after receiving a postsecondary credential?	Yes/No	ESCC documents	Semester/Annually
What types of experiences and support are offered?	# of internships, # of workplace tours, # of job shadowing, # of conferences, # of RockOn! workshops, # of other career track experiences Descriptions of these	Personnel & partner survey Student survey ESCC documents	Semester/Annually

Evaluation Questions	Indicator	Data Source	Timing
	experiences and support offered		
How does the project develop and progress regarding the intended number and nature of business partners that provide placement opportunities to ESCC students?	# of business partners with placement opportunities Description of business partners	Personnel & partner survey ESCC documents	Semester/Annually
How does the project develop and progress regarding the intended number and nature of students who participate in work-based learning experiences?	# of students participating in work-based learning opportunities Description of students (e.g., have postsecondary credential)	Student survey ESCC documents	Semester/Annually
Do personnel and students perceive the work-based learning experiences as high quality and relevant to students' vocational goals?	Quality item bank	Student survey Personnel & partner survey	Annually
Summative Evaluation Questions			
Do students who participate in career track, work-based learning opportunities (e.g., internships, conferences, competitions, résumé and interview support opportunities, etc.) report gains in technical knowledge and STEM skills, future educational aspirations, and vocational self-efficacy?	Knowledge & skills item bank, goal item bank, and self-efficacy item bank	Student survey	Annually
Over the course of the project, is there an increase in placement opportunities for ESCC students?	# of placement opportunities	ESCC documents	Semester/Annually

EVALUATION APPROACH

Magnolia Consulting evaluators are conducting a formative and summative evaluation to address program development, implementation, and preliminary outcomes. The evaluation incorporates a mixed-methods design to allow evaluators to triangulate findings from qualitative and quantitative data sources. Data triangulation will offer a more comprehensive understanding of program implementation, delivery, and outcomes than either quantitative or qualitative methods alone could provide (Patton, 2002; Creswell & Plano Clark, 2007).

DATA COLLECTION

This section describes the data sources, data collection methods, data collection procedures, and data collection timelines.

Review of project documents and records (collected on an ongoing basis): Evaluators are working collaboratively with the project team to access and examine project documents, including ESCC work plans; meeting minutes and agendas; marketing materials; program activities logs and reports; data related to student enrollment, course completion, credentials, degree completion, and transfer to 4-year institutions; and other relevant documents.

For this interim report, evaluators used the following documents:
- project team call notes,
- a project activities log,
- a data collection tool (documenting enrollment numbers and outreach activities),
- meeting agendas and minutes,
- CTS project timetable,
- college materials (e.g., website, dual enrollment handbook, and course catalog), and
- workshop evaluation sheets.

Personnel and partner surveys (collected annually): In spring 2018, evaluators used SurveyGizmo to administer online surveys to personnel and partners who are involved in the development and implementation of the project activities. The project team contributed to instrument design and data collection. This survey included questions pertaining to various aspects of the project activities and programs, including respondents' perceptions regarding program quality and utility. Similar surveys will be designed and distributed in spring 2019 and spring 2020.

Student surveys (collected annually): In spring 2019 and spring 2020, evaluators will use SurveyGizmo to administer online surveys to students who participated in the project activities. The project team will contribute to instrument design and data collection. This survey will include questions regarding the extent to which the students participated in specific program components; how they learned about various aspects of the programs; and whether participation contributed positively to their technical knowledge and STEM skills, future educational aspirations, and vocational self-efficacy. The survey will also address other issues related to program delivery, quality, and utility.

DATA MANAGEMENT & ANALYSES

Evaluators follow specific quality control processes and protocols for collecting, cleaning, and preparing data. By following precise practices, we ensure data accuracy, and our clients can have confidence in the study's findings. Additionally, participants' data are kept confidential, and evaluators combine all results to prevent identification of individual participants.

The evaluation includes qualitative and quantitative analyses, as well as triangulation of data collected through program artifacts, records, and surveys. Quantitative data analyses include calculation of descriptive statistics (such as frequency counts, ranges, means, and standard deviations) and other analyses, as appropriate. Qualitative data analyses include content analyses to identify themes based on the evaluation questions.

LIMITATIONS

The CTS project is in the early stages of implementation. Therefore, evaluators were unable to examine the objectives in much depth or to address all of the formative evaluation questions at this time. Additionally, because no students could be surveyed at this point, this interim report does not reflect their experiences or perceptions of the new program offerings. Moreover, the outcomes of this evaluation cannot conclusively be attributed to the project itself, because the study does not use an experimental or quasi-experimental design. These more rigorous designs are not deemed necessary or appropriate given the current stage of this project's development, but this limitation should be considered when interpreting results.

EVALUATION INSTRUMENTS

The following data collection instrument was used in this interim report.

SPRING 2018 PERSONNEL AND PARTNER SURVEY

ESCC Creating Technical Scholars Survey: Spring 2018

The purpose of this survey is to gather information about the early phases of program planning of the Eastern Shore Community College (ESCC) Creating Technical Scholars (CTS) Project. Your feedback on this survey will help us better understand how the CTS project is being developed during the first year of implementation. It should take about 5-10 minutes to complete.
Thank you for your participation!

What is your role in the project? (Check all that apply)*
[ ] Business, Industry, or Government Partner
[ ] Secondary Education Partner
[ ] High School Career Coach
[ ] ESCC Employee
[ ] ESCC CTE Project Team
[ ] University Partner

DUAL ENROLLMENT TECHNICAL TRACKS

Generally, about how many students are enrolled in the dual enrollment technical tracks during the 2017-2018 academic year?
( ) Number of students:: _____
( ) I don't know

Which of the following describe the students enrolled in the dual enrollment technical tracks during the 2017-2018 academic year?
(Check all that apply)
[ ] High school juniors or seniors
[ ] Currently attend a public or private school
[ ] Currently are homeschooled
[ ] Met or exceeded college placement requirements
[ ] Received a recommendation from a high school official
[ ] Obtained parental consent
[ ] I don't know

How do you perceive the quality of the current dual enrollment technical tracks?
( ) Very high quality
( ) High quality
( ) Average quality
( ) Poor quality
( ) Very poor quality
( ) I don't know

How could the quality of the dual enrollment technical tracks be improved?

Are the current dual enrollment tracks relevant to students' educational and career goals?
( ) Yes
( ) Somewhat
( ) No
( ) I don't know

How could the dual enrollment tracks be modified to make them more relevant to students' educational and career goals?

TECHNICAL STUDIES DEGREE TRACKS

Does the new Industrial Technology Track within the Technical Studies A.A.S. degree program create a pathway to upper division studies?
( ) Yes
( ) Somewhat
( ) No
( ) I don't know

How could the new Industrial Technology Track within the Technical Studies A.A.S. degree program be revised to create a pathway to upper division studies?

How many students do you expect to enroll in the first year of the new Industrial Technology Track within the Technical Studies A.A.S. degree program?
( ) Number of students:: _____
( ) I don't know

What efforts do you have in place to recruit students?

Are you aware of the new Industrial Technology Track within the Technical Studies A.A.S. degree program that will likely be available in the fall 2018 semester?
( ) Yes
( ) Somewhat
( ) No

Do you teach any courses at ESCC?
( ) Yes
( ) No

What courses do you currently teach?

Will this new degree track impact your courses or teaching schedule?
( ) Yes
( ) No
( ) I don't know

How will your courses or teaching schedule be impacted? (Check all that apply)
[ ] I will teach a different number of courses
[ ] I will teach different courses
[ ] My course curricula will change
[ ] I will need additional industry certifications (i.e. in order to teach these new industry credentials to students)
[ ] Other: _____

What, if any, additional information or resources do you need to help make the new degree track successful?

How have you been involved in the development of the new Industrial Technology Track within the Technical Studies A.A.S. degree program at ESCC? (Check all that apply)
[ ] Attended at least one advisory meeting
–Creating Technical Scholars Advisory Meeting on February 16th, 2018 and/or
–Curriculum Development Workshop on November 9th, 2017
[ ] Participated in email exchanges
[ ] Discussed the track with others
[ ] Reviewed documents or materials
[ ] Other: _____

Please rate the extent to which the following statements represent your experiences and perceptions regarding the new Industrial Technology Track within the Technical Studies A.A.S. degree program.

	To a Very Large Extent	To a Large Extent	To Some Extent	To a Small Extent	To No Extent	N/A
I understood the objectives of the planning and development process for the new Industrial Technology Track.	( )	( )	( )	( )	( )	( )
The advisory meeting was productive.	( )	( )	( )	( )	( )	( )
The documents and materials pertaining to the new Industrial Technology Track were useful.	( )	( )	( )	( )	( )	( )
I feel my input and feedback was valued.	( )	( )	( )	( )	( )	( )
The new Industrial Technology Track will be a high-quality program.	( )	( )	( )	( )	( )	( )

Will you or your business benefit from the new Industrial Technology Track within the Technical Studies A.A.S. degree program?
( ) Yes
( ) No

( ) I don't know

How will you or your business benefit from the new Industrial Technology Track within the Technical Studies A.A.S. degree program?

Why would you or your business not benefit from the new Industrial Technology Track within the Technical Studies A.A.S. degree program?

Do you wish to be on the Advisory Board for the new Industrial Technology Track within the Technical Studies A.A.S. degree program?
( ) Yes
( ) No
( ) Undecided

Do you have any suggestions to improve the new Industrial Technology Track within the Technical Studies A.A.S. degree program?

CAREER TRACKS

What types of experiences and support will you or your business offer to students who are enrolled in or have graduated from the new Technical Studies A.A.S. degree track? (Check all that apply)
[ ] Internships
[ ] Jobs
[ ] Field trips
[ ] Opportunities to conduct classroom presentations
[ ] Opportunities to attend career fairs or events
[ ] Internship stipends
[ ] Donations of training equipment and supplies
[ ] Other: _____
[ ] None

How many students will these experiences and support services likely reach?
( ) Number of students: _____
( ) I don't know

How many business, industry, or government partners are currently collaborating with ESCC to implement career tracks?
( ) Number of business, industry, or government partners:: _____
( ) No business, industry, or government partners
( ) I don't know

Please list the business, industry, or government partners and briefly describe their role in the project.

How many students currently participate in work-based learning experiences?
( ) Number of students: _____
( ) I don't know

APPENDIX B. PERSONNEL & PARTNER SURVEY DATA

This appendix presents data from the spring 2018 personnel and partner survey.

Generally, about how many students are enrolled in the dual enrollment technical tracks during the 2017–2018 academic year? (n = 18)

	n
Respondents who provided a number:*	9
I don't know	9

*These respondents provided a range of 0 - 450 students and a median of 12 students.

Which of the following describe the students enrolled in the dual enrollment technical tracks during the 2017–2018 academic year? (n = 19)

	n
High school juniors or seniors	16
Currently attend a public or private school or are homeschooled	10
Met or exceeded college placement requirements	4
Received a recommendation from a high school official	6
Obtained parental consent	6
I don't know	3

How do you perceive the quality of the current dual enrollment technical tracks? (n = 19)

	n
Very poor quality	0
Poor quality	0
Average quality	2
High quality	9
Very high quality	5
I don't know	3

Are the current dual enrollment tracks relevant to students' educational and career goals? (n = 19)

	n
Yes	12
Somewhat	5
No	0
I don't know	2

Does the new Industrial Technology Track within the Technical Studies AAS degree program create a pathway to upper-division studies? (n = 6)

	n
Yes	5
Somewhat	1
No	0

How many students do you expect to enroll in the first year of the new Industrial Technology Track within the Technical Studies AAS degree program? (n = 4)

	n
Respondents who provided a number:*	3
I don't know	1

*These respondents provided a range of 5 - 8 students and a median of 6 students.

Are you aware of the new Industrial Technology Track within the Technical Studies AAS degree program that will likely be available in the fall 2018 semester? (n = 8)

	n
Yes	6
No	2

Do you teach any courses at ESCC? (n = 8)

	n
Yes	6
No	2

Will this new degree track impact your courses or teaching schedule? (n = 6)

	n
Yes	3
No	0
I don't know	3

How will your courses or teaching schedule be impacted? (n = 3)

	n
I will teach a different number of courses	1
I will teach different courses	2
My course curricula will change	1
I will need additional industry certifications (i.e., in order to teach these new industry credentials to students)	0
Other	0

How have you been involved in the development of the new Industrial Technology Track within the Technical Studies AAS degree program at ESCC? (n = 27)

	n

Attended at least one advisory meeting
  -Creating Technical Scholars Advisory Meeting on February 16th, 2018 and/or
  -Curriculum Development Workshop on November 9th, 2017
	25

Participated in email exchanges	12
Discussed the track with others	14
Reviewed documents or materials	11
Other	0

Will you or your business benefit from the new Industrial Technology Track within the Technical Studies AAS degree program? (n = 6)

	n
Yes	5
No	0
I don't know	1

Do you wish to be on the Advisory Board for the new Industrial Technology Track within the Technical Studies AAS degree program? (n = 27)

	n
Yes	15
No	7
Undecided	5

Please rate the extent to which the following statements represent your experiences and perceptions regarding the new Industrial Technology Track (n = 27)

	To a Very Large Extent n	To a Large Extent n	To Some Extent n	To a Small Extent n	To No Extent n	N/A n
I understood the objectives of the planning and development process for the new Industrial Technology Track	13	10	4	0	0	0
The advisory meeting was productive within the Technical Studies AAS degree program (n = 25)	12	12	1	0	0	0
The documents and materials pertaining to the new Industrial Technology Track were useful within the Technical Studies AAS degree program	12	11	2	0	0	2
I feel my input and feedback was valued within the Technical Studies AAS degree program	13	7	3	0	0	4
The new Industrial Technology Track will be a high-quality program within the Technical Studies AAS degree	16	9	1	0	0	1

What types of experiences and support will you or your business offer to students who are enrolled in or have graduated from the new Technical Studies AAS degree track? (n = 6)

	n
Internships	6
Jobs	4
Field trips	3
Opportunities to conduct classroom presentations	3
Opportunities to attend career fairs or events	2
Internship stipends	3
Donations of training equipment and supplies	2
Other	1
None	0

How many students will these experiences and support services likely reach? (n = 6)

	n
Number of who responded: *	2
I don't know	4

*These respondents provided the following responses: 10, numerous.

How many business, industry, or government partners are currently collaborating with ESCC to implement career tracks? (n = 3)

	n
Number who responded: *	1
I don't know	2

*This respondent provided the following responses: 6.

How many students currently participate in work-based learning experiences? (n = 4)

	n
Number who responded: *	4
I don't know	0

*These respondents provided a range of 5 - 20 students and a median of 9 students.