Educational Plan
A.1 Educational Philosophy

Early Career Academy's Approach to Improving Pupil Achievement

Mission
The Early Career Academy is a career-focused charter high school for grades 11 and 12 in which students have the opportunity to earn a high school diploma and a tuition-free associate's degree at the same time.

Vision
We envision the Early Career Academy (ECA) as a place where students enroll in a program of study that leads to a career oriented associate's degree in a technical area like software development or network systems administration. ECA students are exposed to specific practical skills that are in use today in a wide variety of employer organizations. Students enjoy and benefit from the substantial facilities and services available to postsecondary students at the campus where the charter school is located. Students complete programs of study that blend traditional academic content with applied learning concepts, with a significant portion devoted to practical study in a lab environment. Student Professional Experiences and project-based learning prepare students to apply skills in a variety of career-focused positions related to their fields of study. Students graduate with an associate's degree and a significant head-start over graduates from other high schools and find both employment in their field of study and continue with additional post-secondary study.

Critical Elements of the School's Philosophical Approach:
- A tuition-free associate's degree
- A small, personalized school environment will promote the inclusion and belonging of all students
- A culture of success that will ensure everyone is focused on helping students achieve set outcomes
- Rigorous college level coursework in applied fields of study will allow students to learn how to solve real-world problems in challenging ways
- Technology teachers with industry experience will both instruct and interest our students in new fields of study
- In addition to a daily structured schedule, our students will have additional study and resource time, which includes collaboration with staff and peers in laboratory settings
- Students will have the ongoing opportunity to work on real projects for organizations in the community related to their program of study.

The school improves student achievement by offering challenging coursework combined with student academic support services. Findings from the Jobs for the Future study of successful Early College High Schools in North Carolina indicates that students can handle a structured delivery of college level content; the challenged will rise to the occasion. Challenging coursework combined with student academic support services drives student growth[1]. Therefore, ECA will insist that student academic support services and strategies be employed to assist students

1 "Accelerating College Readiness: Lessons from North Carolina's Innovator Early Colleges", Cecilia Le and Jill Frankfort

in achieving in college; especially students that have not been well-prepared for college. This is the same approach ITT Tech has taken to assist college students, many unprepared for the rigors of college work, to complete an associate's degree. Evidence from ITT Tech bears this out as graduation rates, as reported by IPEDs, often far outpace those of community colleges serving similar populations.

ECA students will enroll in a program of study that serves as their academic path, improves student completion rates and creates career ready graduates. This improves student achievement. The programs of study are designed with the end in mind: the ability to apply a body of knowledge in a technology based profession that will provide long-term career growth for the graduate. To accomplish these objectives students must learn and apply critical thinking and problem solving, written and oral communication, working in a team and applying technical skills to real-world problems. Students must also become life-long learners; as the world of technology changes, workers must learn new skills. Today's employers demand these skills and actively seek them in entry-level, professional workers.

Each program of study begins with courses in the student's field of study which engage the student's natural curiosity and begins their immersion into the body of knowledge that compelled them to enroll. Additionally, the first trimester course load includes Problem Solving Theory and Strategies for the Technical Professional which provide students with tools and techniques used to solve problems and learn how to think critically. This theme of core technology courses combined with general education courses that require students to read, write, and apply problem solving and critical thinking skills continues until graduation. Student learning is assessed using traditional techniques like tests and projects. Additionally further development and assessment takes place with the Student Professional Experience which requires demonstration of the application of the body of knowledge to solve real world problems in a team environment. Lastly, the Capstone course is designed for students to tie together and apply what they have learned as a way to assess program level learning outcomes.

ECA is based on the premise that a post-secondary education is necessary for entry into a meaningful career characterized by growth in both responsibility and income. A meaningful career is required for entry into the middle class and is a significant tool for breaking the cycle of poverty (generational poverty that persists in families). The sooner a person enters a career the greater the long-term impact of income growth benefits them.

The Georgetown Center on Education and the Workforce study titled "Help Wanted: Projections of Jobs and Education Requirements through 2018" offers a state-level analysis of the Arizona jobs market by education level. Between 2008 and 2018, new jobs in Arizona requiring postsecondary education and training will grow by 227,000 while jobs for high school graduates and dropouts will grow by 88,000.

Between 2008 and 2018, Arizona will create 907,000 job vacancies both from new jobs and from job openings due to retirement.

- 554,000 of these job vacancies will be for those with postsecondary credentials, 231,000 for high school graduates and 123,000 for high school dropouts.
- 61% of all jobs in Arizona (1.9 million jobs) will require some postsecondary training beyond high school in 2018.

Note: Job vacancies arise from two sources: There are brand new positions created as an occupation grows, and there are pre-existing jobs that people leave behind when they retire, or move into other occupations.

Arizona Jobs Forecasted for 2018, by Education Level	
Education level	**2018 Jobs**
High school dropouts	423,000
High school graduates	797,000
Some college, no degree	297,000
Associate's degree	**796,000**
Bachelor's degree	554,000
Graduate degree	263,000

Source: The Georgetown University Center on Education and the Workforce

Significant empirical evidence exists from the ITT Tech system. The majority of ITT Tech students do not obtain professional careers until they obtain an associate's degree in a career-oriented field. Prior to obtaining a post-secondary credential, many of these students worked in low wage, unskilled positions. The average age of the ITT Tech student is 30; obtaining a career-oriented, post-secondary education a decade earlier would have eliminated a decade lost to low wage, unskilled jobs.

The ECA mission is focused squarely on eliminating the lost decade and breaking the cycle of poverty through the delivery of a post-secondary education while in high school. Achieving this will increase student achievement in the target population.

The target student population for the Early Career Academy will be those students who:

1) Are in Grades 11 or 12 (as classified by the sending high school)
2) Prefer a nontraditional high school experience
3) Excel in environments where they can be active learners and where hands-on and applied activities are prevalent.
4) Who wish to be challenged with college coursework
5) Are interested in earning a career-oriented associate degree in a technology-related field to either pursue a career or to enable further postsecondary education after high school.

ECA is prepared to serve all students who select the school; however, it is believed that the value proposition will attract primarily career-focused students. This particular opportunity does not exist currently in the geographic area and would offer a new option for career-focused students focused on achieving credentials and entering the workforce.

A technology related associate's degree is an outstanding value based on the time invested to obtain it compared to the jobs obtained as a result. This achievement creates a long-term, tangible impact on students. The ECA programs of study, specifically, Software Development and Network Systems Administration lead to jobs that have a Bright Outlook per the Bureau of Labor Statistics and are projected to have 100,000 or more job openings over the ten year period from

2010-2020. Graduates of associate's degree programs obtaining entry level positions in these fields of study can earn salaries in the low 30 thousand dollar range. This is an excellent salary considering the cost of the obtaining an associate's degree (no-cost for an ECA student) and places the graduate on a white-collar career path that has long-term viability.

Software Development Jobs: Projected employment for related occupations for the state of Arizona and for the Phoenix area is summarized below.[2]

Arizona – Statewide

Standard Occupation Classification (SOC)		Employment		Average Annual Openings		
SOC Code	**SOC Title**	**2010 Estimated**	**2020 Projected**	**Due to Growth**	**Due to Separations**	**Total**
15-1121	Computer Systems Analysts	9,912	11,664	175	186	361
15-1131	Computer Programmers	7,444	8,160	72	173	245
15-1132	Software Developers, Applications	6,974	8,474	150	72	222
15-1133	Software Developers, Systems Software	8,903	11,175	227	93	320
15-1150	Computer Support Specialists	12,774	14,723	195	336	531

Phoenix Area

Standard Occupation Classification (SOC)		Employment		Average Annual Openings		
SOC Code	**SOC Title**	**2010 Estimated**	**2020 Projected**	**Due to Growth**	**Due to Separations**	**Total**
15-1121	Computer Systems Analysts	7,850	9,304	145	147	292
15-1131	Computer Programmers	5,591	6,273	68	130	198
15-1132	Software Developers, Applications	5,715	7,069	135	59	194
15-1133	Software Developers, Systems Software	5,027	6,510	148	52	200
15-1150	Computer Support Specialists	9,669	11,237	157	254	411

Network Systems Administration Jobs: Projected employment for related occupations for the state of Arizona and for the Phoenix area is summarized below.[3]

[2] Arizona Department of Administration, Office of Employment and Population Statistics, http://azstats.gov/pubs/labor/AllAreasOccProj10-20.xls

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Arizona – Statewide

Standard Occupation Classification (SOC)		Employment		Average Annual Openings		
SOC Code	SOC Title	2010 Estimated	2020 Projected	Due to Growth	Due to Separations	Total
15-1141	Database Administrators	3,006	3,741	74	51	125
15-1142	Network and computer systems architects and administrators	6,863	8,820	196	116	312
15-1150	Computer Support Specialists	12,774	14,723	195	336	531

Phoenix Area

Standard Occupation Classification (SOC)		Employment		Average Annual Openings		
SOC Code	SOC Title	2010 Estimated	2020 Projected	Due to Growth	Due to Separations	Total
15-1141	Database Administrators	2,430	3,033	60	41	101
15-1142	Network and computer systems architects and administrators	5,160	6,698	154	87	241
15-1150	Computer Support Specialists	9,669	11,237	157	254	411

A post-secondary degree lasts forever. Over 60% of the population, age 25 or older in the target area has not obtained a post-secondary degree. When measured in this manner, student achievement in the target population will be improved by helping students invest in themselves through the completion of a post-secondary credential. Investing in knowledge attainment has the greatest return for the investor when the credential attained maintains its value the longest. An associate's degree or a bachelor's or master's degree has always held its value. Degree holders benefit from completing a degree even when the program studied does not relate to the degree holders job. Employers often view degree completion as table stakes for job consideration. Candidates without a degree often do not get a chance to pitch their talents. Contrast this with a certification in a technology related field. Like a melting ice cube, as time passes, the value of the certification diminishes. Young people should be investing where their returns are the greatest. This same approach applies to high school course work. A student should take college coursework in lieu of high school coursework, given the choice. Its lasting impact tells us so.

What is measured receives attention; data driven decision making leads to better outcomes. ECA is run using data. Measuring student, teacher and school achievement and making sure everyone knows what is measured, improves outcomes. ECA will engage ITT Educational Services Inc. (ESI) as the EMO. ESI has the benefit of managing over 130 campuses that offer the same programs of study. This level of data allows ESI to manage outliers or programs that are doing better and doing worse than the average. This provides ECA with a significant edge in understanding how effective its administrative team is in improving student achievement. A system of schools, all teaching the same courses, allows best practices to rise and to spread, improving all schools. The level of data available to review is profound and allows board members to make policy decisions that will improve student achievement in the target population. ESI has years of experience proving this to be the case.

Principles of ECA's Proposed Program of Instruction.

To improve student learning and student achievement ECA promotes the principles and methods of Applied Learning grounded from the following theoretical constructs:

- Merrill's Principles of Instruction suggesting that the most effective learning products or environments are those that are problem-centered and involve the student in: a) activation of prior experience, b) demonstration and application of skills, and c) integration of those skills into real-world activities
- Gagné's Taxonomy of Learned Capabilities that represent progression of competency development from lower level operational skills to high-level intellectual capacity for solving unknown, complex, ill-structured problems through application or generation of rules
- Bloom/Krathwohl's Taxonomy of Educational Objectives that determines: a) selection of specific instructional tasks and associated outcomes, and b) assessment of learning outcomes
- Keller's ARCS Model addressing critical factors of learner motivation and engagement

The theories are applied in the ECA course design utilizes the ITT/ESI proprietary Explore-Practice-Apply model that allows students to gradually build their knowledge and skills while engaging in meaningful and context relevant interactions with their peers. Students move through learning levels meaningfully and deliberately.

- Explore – Facilitates student discovery learning, activation of prior knowledge and building connections between new concepts and existing cognitive frameworks through interactive learning activities.
- Practice – Engages students to apply new concepts in the process of developing and testing skills through hands-on exercises, labs, role playing and modeling.
- Apply – Engages students in the analysis of complex situations and the development of solutions required by learning tasks grounded in real-life/workplace contexts.

ECA students will enroll in a program of study. Students that are interested in their subjects stay engaged especially when they are tied to a goal or personal vision. ECA will initially offer two programs of study: Network Systems Administration and Software Development. Each program has a defined path laid out for students allowing them to clearly see the end while knowing where they are along the path. Each program of study exposes student to a body of knowledge with each course building upon the knowledge gained in the previous course. An example below from Software Development illustrates a series of courses that get more advanced as students' progress through the program.

NT1110	Computer Structure and Logic+
PT1420	Introduction to Programming+
SD1230	Introduction to Application Design and Development+
SD1240	Creating Websites Using HTML and CSS+
SD1340	Creating Websites Using HTML5, CSS3 and JavaScript+
SD1420	Introduction to Java Programming+
SD1430	Introduction to Mobile Operating Systems+

SD2520	Introduction to Database and XML with jQuery+
SD2550	Application Development Using Java I+
SD2650	Application Development Using Java II+
SD2670	Social Networking Applications and Technology+
SD2799	Software Development Capstone Project+

Students and their parents benefit from having a path, having no choice or electives and having a vision for their own completion of the program. Unlike traditional high school, ECA's focus is on getting students excited about the relatively deep exploration of a body of knowledge. This is designed to initially engage them and to keep them engaged and excited as they move along the path, gaining more knowledge and getting closer to their goal. Contrast this with the typical and the often disconnected electives available to juniors and seniors in high school. Disengaged senior high school students are less likely to stay in school and more likely to find a substitute for their time, especially when they fail to see a future benefit to their efforts. The immediate gratification of a paycheck from menial work can be enough to draw disengaged students away from school. ECA offers these students a way to get significant return on their investment in senior high school through a deeper engagement in an area of interest and this will lead to better outcomes and higher completion rates for the target population. The target population includes students in grades 11 and 12 who prefer a nontraditional high school experience, active, hands-on learning and applied activities, prefer the challenge of college coursework and are interested in earning a career-oriented associate degree in a technology-related field.

The Student Professional Experience (SPE) brings reality into the classroom by allowing students to apply learning to a real-world project. Students complete Student Professional Experiences with local businesses or community organizations and build a professional portfolio that can be used to both assess their learning and enhance their marketability when they apply for jobs at graduation. At the same time, they receive learning opportunities in general education core courses that broaden their educational experience beyond their technical programs and emphasize qualities gained from the study of the traditional liberal arts and sciences, also with practical application included in the learning activities. Reading is integrated throughout the curriculum and students have the unique opportunity to engage in reading related to the workplace when they complete their Student Professional Experiences. ECA has an emphasis on applied and practical learning in both technical and core classes, which is consistent with the mission and will improve student achievement in the target population. The target population includes students in grades 11 and 12 who prefer a nontraditional high school experience, active, hands-on learning and applied activities, prefer the challenge of college coursework and are interested in earning a career-oriented associate degree in a technology-related field.

Community partnerships will offer ECA opportunities to improve curriculum, engage in SPE's and obtain job placement. Through ECA's use of ITT Tech and ITT Tech's programs of

study, ECA will avail itself to Program Advisory Committees (PACs) utilized by ITT Tech. PACs are made up of employers and industry experts from the community and are organized by each School of Study and contain approximately ten members. Each ITT Tech has PAC's for each School of Study. PAC's meet twice per year and are surveyed regularly for feedback about curriculum, labs, and equipment and industry trends. The feedback is used locally and nationally to inform curriculum and lab revisions, academic delivery, extra-curricular activities and market trends. The data is aggregated by the ITT Tech system of schools and a clear, employer driven trend can be discerned.

Each ITT Tech campus maintains a career services department which serves to assist students in obtaining SPE's, internships and permanent jobs. The career service staff maintains employer partnership to facilitate student placement. Feedback from employers informs the curriculum and academic delivery at the school which serves to assist in creating career ready graduates. This will improve the student outcomes of the target population.

Target Population

ECA will operate out of the ITT Tech Tempe college campus and as such, ECA will likely attract students from the same neighborhoods as ITT Tech. To discover more about these neighborhoods, ECA conducted an extensive demographic review. This sophisticated review utilized the street address of each student that started college at ITT Tech in Tempe and then retrieved the demographic data from that address and the surrounding neighborhood. This allows ECA to better pinpoint the high schools and corresponding educational attainment for comparison purposes as well as hundreds of other related to the area. See the Target Population section for more details.

Adopting the instructional approach, curriculum, and program of study approach from ITT Tech makes sense given the hypothesis that the student populations will resemble each other. Additionally, a review of the high schools in the target population indicates that the ECA offering is unique. Given the long-term success of ITT Tech Tempe leads ECA leaders to believe <u>this model of applied learning, college-level coursework combined with student academic support will lead to improved student achievement in the target population</u>.

ECA's approach to including a college degree for free is partly based on the idea that parents without a college degree are less likely to be able to help their children through the college enrollment and completion process. These same parents are typically strong proponents of post-secondary education because they want their children to do better than they did and see education as the path to doing that. The demographic data from the ECA target population footprint, as defined by the ITT Tech student census, indicates that 64% of the population 25 years and older do not have a post-secondary degree. This percentage makes it highly likely that ECA parents will not have experience completing college. Including the post-secondary degree for free will increase student achievement in the target population.