

CAREER AND TECHNICAL EDUCATION IN UTAH



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INTRODUCTION

Education is the groundwork for a progressive and successful society, and career and technical education (CTE) is an integral component in that foundation. Participants are trained in a distinct set of skills, yielding specialized knowledge, which improves the general human capital.

Occupations associated with CTE are highly varied in their purpose, nature, and specialization. CTE presents a wide array of careers in which individuals can specialize, including electrician, web development, nursing or even accounting. Individuals partaking in CTE engage in a critical economic process, becoming skilled tradesmen and professionals who can benefit businesses. Increased levels of specialization in the workforce also benefits society at large.

CTE providers work closely with prospective employers to ensure the level and quality of labor supply matches market demand. CTE agencies have created curricula intended to train students in the art and science of their respective specializations, to the extent to which employers demand such art and science. This is to say, career and technical education is highly aligned with the requirements of specialization set forth by employers, and CTE providers create employees who can closely meet these requirements.

Beyond CTE's economic benefits, there exist benefits associated with providing educational and occupational pathways for a large group of individuals within society. Not everyone in a given high-school student population is destined to complete formal education at the bachelor's, master's or doctorate degree level. Instead, the subset of the population who chooses to engage in CTE is rightly served by its provision. Education often leads to a more enriched life, personally and economically, regardless of whether it's at the university or in a career skills program.

Therefore, CTE provides individuals who desire to enter the workforce specializing in a specific occupation with the ability to do so. These programs help those individuals fulfill personal and occupational goals while increasing specialization and therefore efficiency of Utah's economy. This report presents a summary of CTE providers, along with a description of the programs offered, financial information related to these programs and a conceptualization of CTE "capacity." Additionally, the report reviews wage and employment outcomes related to CTE, and also examines the past, current, and future performance of CTE in Utah in relation to labor demand. Finally, the report concludes with an overarching summary of CTE in Utah and its impact on labor outcomes.



HOUSE BILL 337: CAREER AND TECHNICAL EDUCATION COMPREHENSIVE

Pursuant to House Bill 337¹, a board was convened to conduct a comprehensive study of the state of career and technical education in the State of Utah. House Bill 337 described the membership of the CTE board to include: the state superintendent of public instruction with the Utah State Board of Education (USBE), the commissioner of higher education with the Utah System of Higher Education (USHE), the president of the Utah College of Applied Technology (UCAT) (who currently is called the commissioner of technical education), the executive director of the Utah Department of Workforce Services, the executive director of the Governor's Office of Economic Development (GOED), a member of the governor's staff, five private sector members or individuals who hold certificates issued by a CTE program, and one member from the senate and house of representatives (these roles may be delegated to an appointed designee). The roles are fulfilled by the following individuals, in order as described by House Bill 337:

- Sydnee Dickson, Ed.D. – State Superintendent of Public Instruction (USBE)
- David Buhler, Ph.D. – Commissioner of Higher Education (USHE)
- Jared Haines, MS – Acting UCAT Commissioner of Technical Education (UCAT)
- Jon Pierpont – Executive Director (Workforce Services)

- Val Hale, MA – Executive Director (GOED)
- Tami Pyfer, MS – Governor's Education Advisor
- Brenda Voisard, MBA – Career Development Manager (Intermountain Health Care)
- Kevin Crandall – Vice President of Quality, Claims Solutions (Xactware Solutions, Inc.)
- Richard Jenkins – Director R&D Molding (Merit Medical Systems, Inc.)
- Rich Thorn – President/CEO (AGC of Utah)
- Ann Millner, Ed.D. – State of Utah Senator
- Richard Cunningham – State of Utah Representative

The board is comprised of individuals from the relevant agencies related to education and occupational outcomes, which is the primary interest of House Bill 337. The agencies of interest to comprehensively understand career and technical education in Utah are USBE, USHE and UCAT.



USBE's purpose is "to provide an opportunity for educational excellence for each student."² This public education mandate includes the provision of career and technical education. USBE provides primarily kindergarten to 12th grade education and is the agency with which most Utahans are familiar, as K-12 education is compulsory.



USHE's mission statement places CTE education as a major imperative as they "provide high-quality academic, professional and applied technology learning opportunities designed to advance the intellectual, cultural, social and economic well-being of the state and its people."³ USHE is the primary provider of higher education and scholastic research in graduate and research volume for the State of Utah.



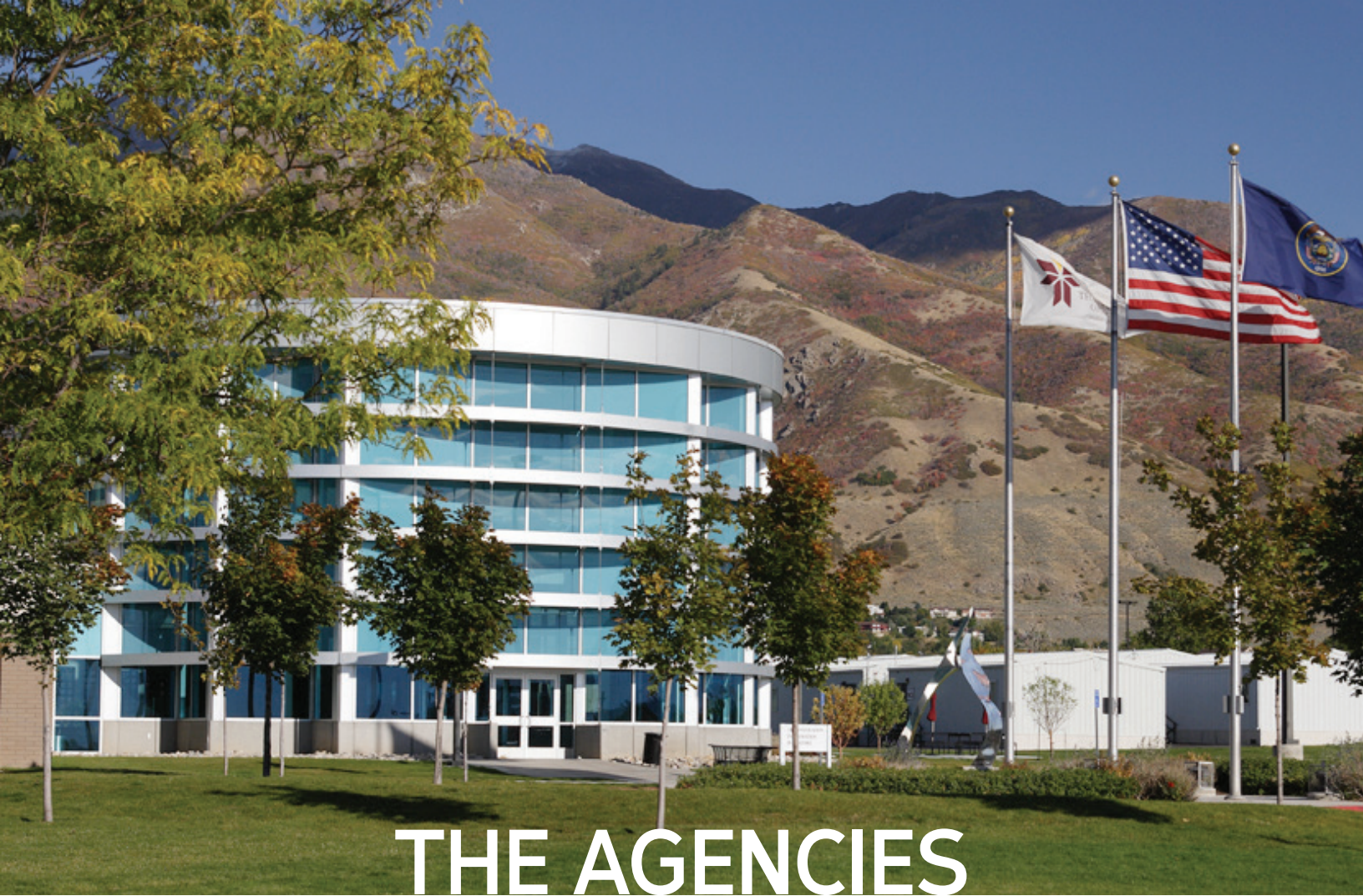
Finally, **UCAT's mission** statement indicates that UCAT will "meet the needs of Utah's employers for technically skilled workers by providing market-driven technical education to both secondary and adult students."⁴ UCAT's singular role, is to provide career and technical education, unlike USBE and USHE, which provide career and technical education in a more secondary manner.

USBE, USHE and UCAT form the greater majority of the network of service providers (educators) for individuals seeking career and technical education in Utah.

The directive of House Bill 337 is to provide a comprehensive summary of the current state of CTE education in Utah by providing answers to the following queries:

1. Provide and inventory of all CTE programs in Utah including:
 - Description of programs
 - Number of students the program has the capacity to serve each year
 - The number of students the program served since October 1, 2010, by school year
 - The number of awards the program issued since October 1, 2010, by school year
 - Geographic location
 - Materials and equipment
 - Funding
2. Employment information for student who have completed a CTE program since October 1, 2010
3. The extent to which overlap or duplication exists between the program and other CTE or private programs
4. Description of CTE funding provided for USBE, USHE, and UCAT
5. Cost per student
6. Assessment of Utah business and industry needs for employees with skills taught in CTE classes, including the number of current and anticipated jobs in Utah by geographic region and the skills taught in a CTE program
7. Starting and average salary by geographic region and type of CTE skill for an individual who has skills taught in a CTE program
8. Extent to which current CTE programs can meet the employment needs of Utah business and industry

The answers to these questions are the outcome of coordinated efforts between the CTE agencies and the CTE board, and they are provided in the sections that follow.





CTE AGENCIES

The three CTE agencies in Utah share commonalities in how they approach CTE training. However, their missions are unique and vary in the populations served, geographic locations, program offerings and ultimate CTE occupational pathways. To more clearly understand the answers provided to the queries at hand in future sections, it is important to describe these differences. For instance, USBE covers a total of 41 local educational areas (each composed of several school locations), which implies that it will have greater and more hyper-local geographic coverage in Utah compared to USHE and UCAT, which have broader coverage throughout the state. This example offers context for the future analyses provided and shows the difference in scope and mission between USBE and its higher-education counterparts, USHE and UCAT. USBE, as previously explained, provides compulsory education and is the cornerstone of K-12 education in Utah. USHE and UCAT were created to provide voluntary education in the form of higher education and CTE, respectively. The following section outlines each agency's purpose, including the demographics each serves, and describes the geographic locations, primary purposes, and occupational pathways associated with each agency.

CTE AGENCIES PRIMARY PURPOSES AND THEIR RELATIONSHIP WITH CTE

The three agencies are unique in their purposes, mission and vision. USBE was created to provide compulsory education, specifically in the form of K-12 education. CTE was appended to the curriculum to “introduce students to career options, assist in development of career goals, provide technical skills, provide occupational-specific skills and prepare students for further education and training.”⁵ The roles of CTE attributed by USBE point to the “augmenting” concept of CTE. USBE considers CTE as an ancillary — yet critical — portion of the general education of a given pupil.

USHE was instituted to offer formal higher education, as well as innovation in the form of research and development. USHE offers career and technical education at their colleges and four-year institutions. While CTE is one of the primary goals of USHE's community colleges, it is also an important goal of the four-year institutions. Because of this, CTE coverage is provided across the state by USHE institutions. USHE, therefore, represents a hybrid of purpose.

In contrast to USBE and USHE, UCAT's very existence is to provide CTE. As such, UCAT dedicates its entire stock of resources to this purpose and is singular in its educational offerings.

The variation in purpose is critical to note for the interpretation of future facts, figures and analyses. Economies of scale offer a fine example. Any appropriations to UCAT will serve a CTE-centric purpose per the agency's

primary mandate to create quality career and technical education. USHE and USBE, on the other hand, may be appropriated funds specifically for CTE, but could leverage these funds for alternative purposes. Conversely, funds could be appropriated for their alternative/primary purposes and be used for CTE. Regardless of the final outcome, it is critical to consider where an agency falls on the spectrum of focusing on CTE (i.e., a singular focus versus viewing CTE as educationally augmenting) when reviewing the report at hand.



Singular



Hybrid



Educationally Augmenting

DEMOGRAPHIC SUMMARY OF CTE STUDENTS

In this section, the gender, age, and race of individuals who participated in CTE education are described.

GENDER. The distribution of males and females served by the CTE agencies is valuable to the context of future analyses included in the report at hand. An individual’s gender is a known factor in wage and occupational decisions.⁶ USBE’s numbers show a male-to-female ration that reflects what would be expected, seeing as its numbers should parallel the overall population due to its compulsory nature. The breakdowns of sex in UCAT and USHE, into which students choose to enroll, are more interesting. USHE’s numbers consistently showed more males than females enrolled from 2011 to 2015, albeit with slight fluctuations. UCAT, on the other hand, showed a flip in the majority sex in that time period. Where 2011 had more females than males enrolled (48% versus 52%), 2015 had more males than females enrolled (55% versus 45%).

AN INDIVIDUAL’S GENDER IS A KNOWN FACTOR IN WAGE AND OCCUPATIONAL DECISIONS.

GENDER DISTRIBUTION BY YEAR⁷

Year	Gender	USBE	USHE	UCAT*
2011	Male	48%	55%	48%
	Female	52%	45%	52%
2012	Male	48%	55%	47%
	Female	52%	45%	53%
2013	Male	48%	54%	48%
	Female	52%	46%	52%
2014	Male	48%	53%	54%
	Female	52%	47%	46%
2015	Male	48%	54%	55%
	Female	52%	46%	45%

**Certificate-seeking students (does not include secondary or upgrade students)*

AGE. The average age of CTE students is a highly relevant variable when considering wage and occupational outcomes. Empirically, there is a positive relationship between age and wage level, all things constant. The more experience an individual has, the higher the wage he or she earns.⁸ Also, the earlier an individual enters his or her field of choice, the more years he or she has for that career choice to yield a positive return on investment. As expected, USBE possesses the least experienced CTE students, with the

average age falling between 15.2 and 16.8 years. The age range of USBE is consistent with the fact that USBE services mostly high-school students and, to an extent, a minority of middle-school students.

According to the National Center for Education Statistics, the age range of USHE students — ages 23.8 to 25.2 — places these students within the largest age group for “college students.”⁹ This is to say, USHE CTE students, in regard to age, are more similar to traditional college students. Conversely, the age range of UCAT students — ages 27.6 – 28.9— places these students outside the typical range for college students. These age facts provide evidence to the existence of fundamental difference in populations served across the three agencies.

AVERAGE AGE OF CTE STUDENT BY YEAR

Agency	Year				
	2011	2012	2013	2014	2015
USBE	15.2	15.5	15.9	16.4	16.8
USHE	24.6	25.2	24.4	24.3	23.8
UCAT	28.9	28.3	28.2	28.3	27.6

RACE. In the same vein, race also affects income.¹⁰ For the majority of the race groups, the three CTE agencies possess similar percentages of various racial groups across the years 2011 – 2015. There was, however, a stark difference for one major minority group across USBE, USHE and UCAT: the number of Latinos engaged in CTE training. The percentage of Latino CTE students being served by USBE across the years is around 15 percent, which is higher than those served by USHE (8.0 percent to 10 percent) and UCAT (8 percent to 12 percent). According to the U.S. Census Bureau, the share of self-identified Latinos in Utah is 13.7 percent.¹¹ The percentage for USHE and UCAT should, in theory, be higher to reflect to this state-wide demographic. The lower rates of Latino engagement in CTE programs shows an opportunity to further expand CTE to this underserved population.

LATINO ENGAGEMENT IN CTE PROGRAMS SHOWS AN OPPORTUNITY... FOR EXPANSION.



SHARE OF CTE STUDENTS BY ETHNIC GROUPS

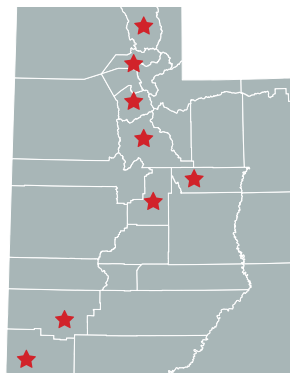
Agency	Year	African American	American Indian	Asian	Caucasian	Latino	Multi-racial	Other/Unknown	Pacific Islander
USBE	2011	1%	1%	2%	78%	15%	1%	N/A	2%
	2012	1%	1%	2%	78%	15%	1%	N/A	2%
	2013	1%	1%	2%	77%	15%	2%	N/A	2%
	2014	1%	1%	2%	76%	16%	2%	N/A	1%
	2015	1%	1%	2%	76%	16%	2%	N/A	1%
USHE	2011	1%	2%	2%	73%	8%	0%	12%	1%
	2012	2%	1%	2%	69%	9%	1%	17%	1%
	2013	1%	1%	2%	70%	9%	1%	15%	1%
	2014	2%	1%	2%	69%	10%	1%	15%	1%
	2015	1%	1%	2%	68%	10%	2%	15%	1%
UCAT	2011	2%	2%	1%	64%	9%	1%	21%	1%
	2012	2%	1%	1%	73%	8%	1%	12%	1%
	2013	2%	1%	1%	76%	10%	1%	7%	1%
	2014	2%	1%	1%	77%	11%	1%	6%	1%
	2015	2%	2%	1%	80%	12%	1%	2%	1%

GEOGRAPHIC LOCATION OF INSTITUTIONS AND CAMPUSES.

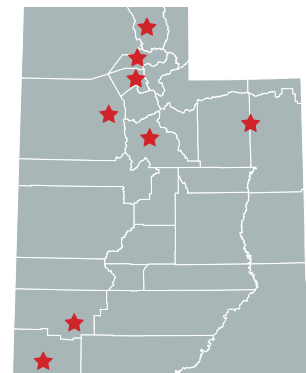
Geographically, and in combination, the three CTE agencies have coverage throughout the state. USBE has a local education agency (LEA) in every county. The impetus for this fact is the need to provide compulsory education to all secondary students in Utah. In contrast, USHE and UCAT possess a total of eight institutions (their equivalence to an LEA) each and were guided by statute, in the case of UCAT, as to the location of its institutions and the service areas.

The central pattern of placing USHE and UCAT institutions is to be geographically accessible to the largest centers of population, particularly in the nine most populous counties in the State of Utah: Salt Lake, Utah, Davis, Weber, Washington, Cache, Tooele, Box Elder and Iron counties.¹² USHE and UCAT both have institutions in five counties: Cache, Weber, Utah, Iron and Washington. Conversely, Davis, Tooele, Salt Lake, Carbon, Sanpete and Duchesne counties possess either a USHE or UCAT CTE institution. The remaining

counties — Box Elder, Summit, Uintah, Wasatch, Sevier, San Juan, Millard, Morgan, Juab, Emery, Grand, Kane, Beaver, Garfield, Wayne, Rich, Piute and Daggett — do not have a primary campus for a USHE or UCAT institution.

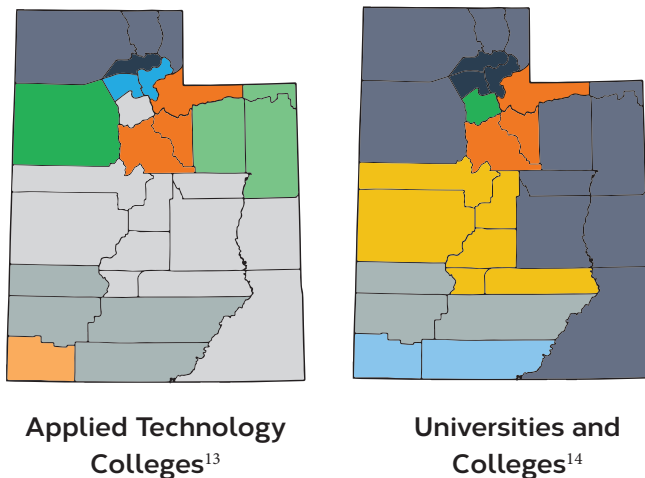


USHE



UCAT

In addition, USHE and UCAT institutions include satellite locations. The agencies leverage satellite locations and extension campuses to expand their geographic reach. The service areas are centered on the county upon which the institution is located and spread to cover adjacent counties through their network of campuses and satellite locations. Therefore, although the agencies are composed of eight institutions with eight primary locations, they have greater geographic reach than would be afforded by merely eight primary locations. This reach is shown in the following maps depicting the location of the institutions and their respective service areas.



OCCUPATIONAL PATHWAYS. The occupational outcomes associated with career and technical education are of the utmost importance to the analyses at hand. Higher levels of specialization often correlate with less competition in the labor force and greater wage-level earning potential. Certification in certain occupations serves as a barrier to entry into the labor market and controls the labor supply volume. USBE, UCAT and USHE offer varying levels of specialization, and, therefore, the occupational pathways will vary among individuals who complete a given program/certification.

For example, USBE, USHE and UCAT each offer a program or certificate in accounting, but their requirements and occupational outcomes vary widely.

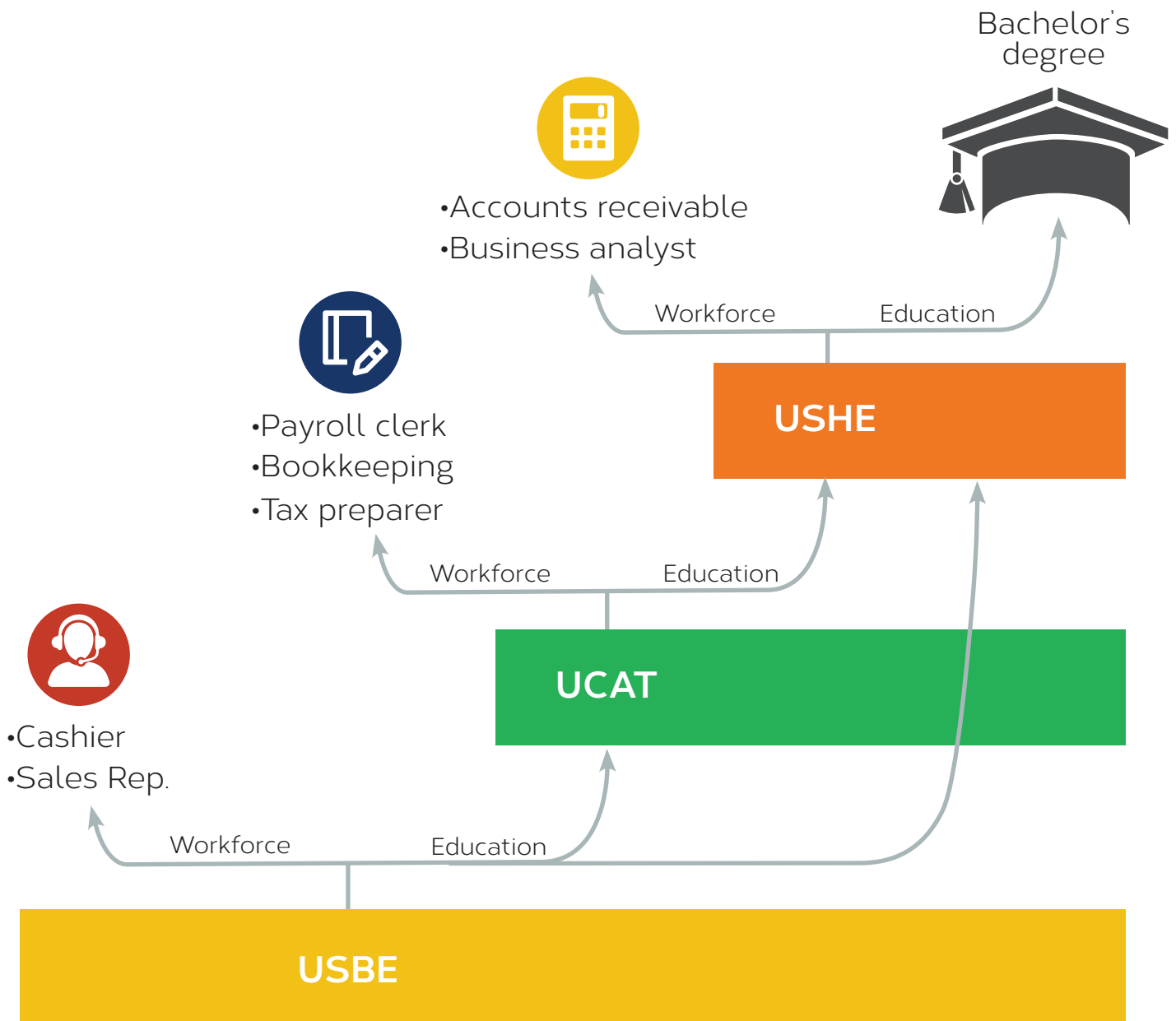
USBE's accounting pathway consists of completing four classes within the accounting and finance pathway of study in addition to the general education requirements for graduation from high school. The classes within the accounting and finance pathway teach basic principles of economics, retail, business law, business mathematics, business communication and accounting. Upon completing the pathway, students graduate with a high school diploma and a certificate of pathway of study completion.

The accounting program at UCAT's Bridgerland Applied Technology College (BATC) requires 1,200 classroom hours, including 18 core classes and three to five elective classes (depending on choices). The skills taught are specific to those required by the private sector in classes such as keyboarding, workplace relations, business math and payroll accounting. In addition, BATC's program includes three levels of accounting core classes. Upon completing coursework, students graduate with a certificate in accounting. It is important to note that this is indicative only of the accounting program offered through BATC. The institutions comprising UCAT have freedom in the creation of their curriculum, and as such, variations across the institutions occur (with the exception when licensure requirements limits the amount of variation).

Lastly, the accounting program at USHE's Salt Lake Community College (SLCC) requires approximately 3,024 classroom hours, which includes 63 credits minimum through 21 three-credit classes. These classes include six core general education classes required for an associate degree, plus the remaining 15 elective classes, which are clustered in three major topics: business basics, accounting essentials and intermediate accounting. The classes therein range from the very general (e.g., financial accounting) to specific and technical (e.g., federal income tax). Upon completing the requirements set forth by USHE, the student graduates with an Associate of Science in accounting.

Clearly, the degree of specialization and level of certificate increase navigating from USBE to USHE,

which correlates to what kind of occupational paths individuals may take upon completion. An example is provided below.



The chart above is not indicative of every program offered by USBE, USHE and UCAT. There are programs in which the occupational outcomes associated with a certificate from USHE or UCAT would potentially yield similar outcomes for the prospective graduates. USBE and UCAT also offer industry certifications, which differ from certificates and degrees. These certifications do present a more skills-oriented, industry-recognized means of entering a given occupation, as opposed to only completing a program of study, and are more similar to certificates and degrees in how they affect employment potential.



THE PROGRAMS



THE PROGRAMS

The degree to which a program is specialized can affect occupational outcomes, as can market demand for the various fields of study. As of September 2016, the three CTE agencies offered a wide variety of programs (which includes USBE's pathways of study and UCAT's and USHE's certificate and degree programs) to meet the varied educational and occupational interests of students with regard to both extent and area of specialization. Below is the total number of unique CTE programs as well as examples of programs from each agency. A comprehensive list of the programs, including descriptions, is offered in the appendix.

UNIQUE CTE PROGRAMS

USBE	56
USHE	166
UCAT	83

Total number of unique programs from consolidated program list (list available in the appendix.)

USBE



- Plant system



- Accounting and finance



- Automotive service technician



- Commercial photography



- Robotics

USHE



- Carpentry technology



- Family and human studies



- Ironworker technology



- Registered nurse



- Respiratory therapy

UCAT



- Customer service



- Digital media design



- Machine tool technology



- Medical clinical assistant



- Commercial driver license

Programs across the CTE agencies offer different levels of education within and without. There are three distinct levels, with increasing educational requirements and expectations. First, industry certification is awarded when a student passes an exam and completes the required instructional time. Next is a certificate, which is awarded upon completing the required classroom instruction, typically spanning two years or less. The three agencies offer both of these levels of education. Finally, USHE offers associate degrees in CTE-related fields.

USHE currently provides the greatest number of unique programs, with UCAT and USBE providing only half or one-third, respectively, of what USHE offers. USHE also provides the greatest diversity of programs of study, thanks to both the number of programs offered and the way its institutions leverage traditional academic diversity within the existing educational departments. For instance, USHE's surveying and geomatics program is possible because USHE's institutions (specifically SLCC) have robust geography departments already. Such a program would be cost prohibitive, otherwise.



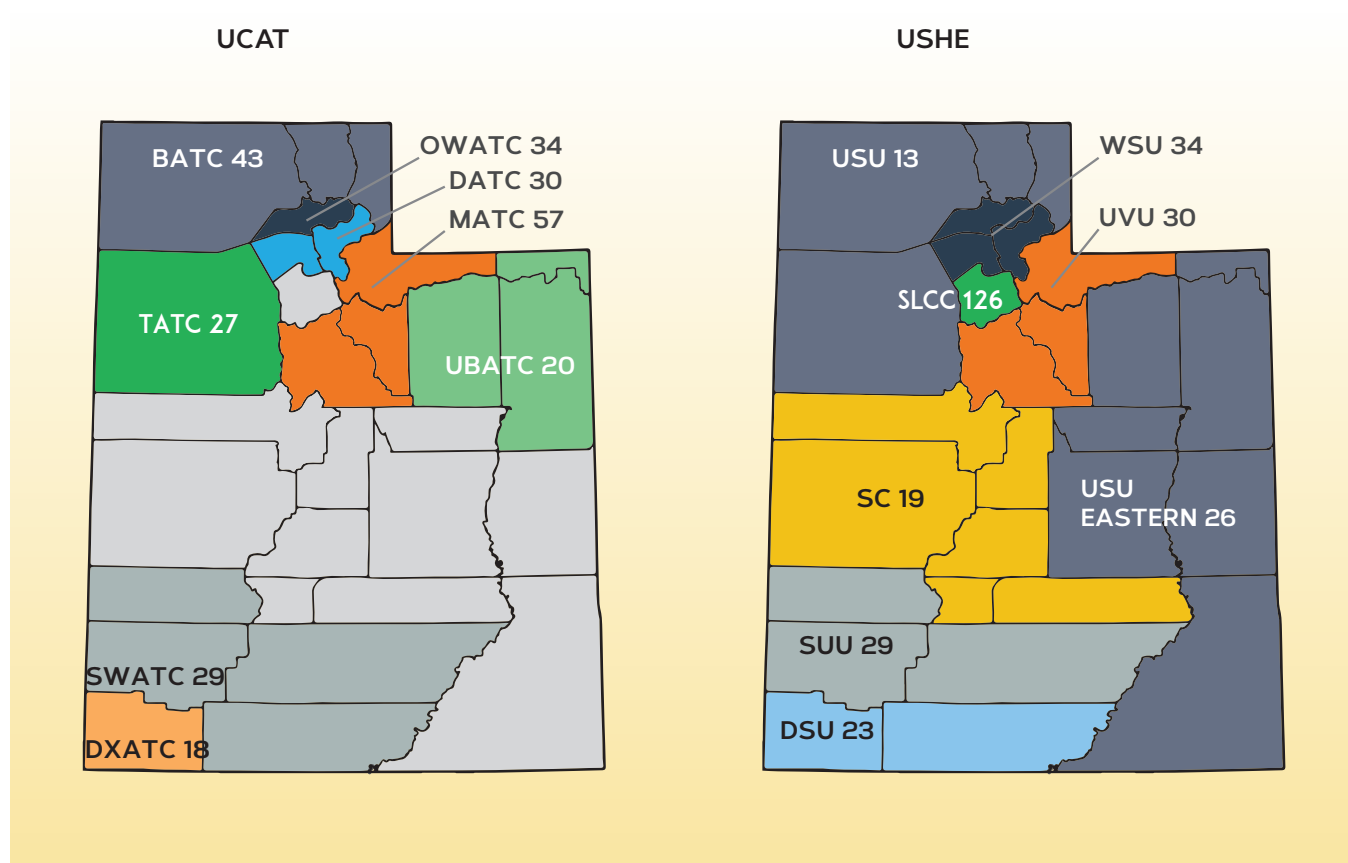
Programs randomly optioned from a consolidated list of programs provided through the network of campuses in each agency.

Comparatively, USBE's programs are significantly more basic within their realms of specialization than UCAT's and USHE's. They focus on providing introductions and basic thematic knowledge associated with a given program of study. Therefore, the number of programs offered is limited by USBE's goal of providing a quality foundation of general and basic CTE knowledge.

UCAT's programs are specifically designed to provide scholarship and training specifically aligned with the skills demanded from the labor market. UCAT also aims for its programs to be completed within a relatively quick time window, as to be flexible to labor demand. These factors limit the number of possible high-quality programs that UCAT can provide. UCAT technically has more than 400 unique programs among its eight institutions; however, in this analysis, some of these are condensed to prevent redundancy in reporting. For example, BATC, Tooele Applied Technical College (TATC) and Southwest Applied Technology College (SWATC) all have accounting programs, but each differs in the hours and course work required. They are technically unique programs. For the purpose of this report, however, they are condensed into one entry for accounting.

A comprehensive list of the programs offered by USBE, USHE and UCAT institutions is available in the appendix, along with the descriptions.

GEOGRAPHIC LOCATION OF PROGRAMS. The geographic location of CTE programs expands on the pool of context for the report and the analyses therein. The extent of the geographical coverage of career and technical education programs can affect the educational choices and opportunities of current and future CTE students. Below are maps depicting the geographical location of programs, and the number of programs offered within the boundaries of a given service area.



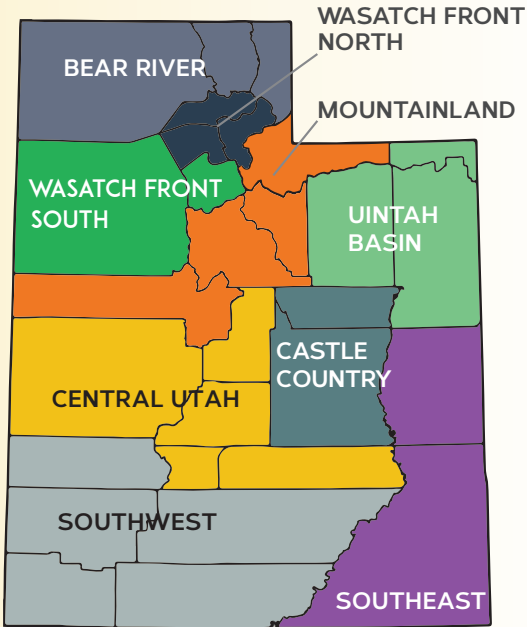
The service area for USHE completely encompasses the state; therefore, it offers programs to every county. The greatest number of programs is offered at USHE's SLCC institution, and is therefore concentrated in the service area that includes Salt Lake County. There are decreasing numbers of programs offered in the remaining service areas. The number of programs by service area ranges from 13 to 126. UCAT provides programs primarily in the north and southwest areas of the state; the center and southeast counties have no service areas assigned. The number of programs by service area for UCAT ranges from 18 to 57. Combining the two agencies, the entire state is provided with CTE at varying degrees of program provisioning.

GEOGRAPHIES AND OCCUPATIONS. To provide additional context regarding the geographical location of programs, the counties have been grouped into regional areas in correlation with Workforce Services’ service area paradigm. The regional grouping allows for an analysis of the ability of USHE and UCAT to provide programs congruent with the top 10 fastest-growing occupations, as described by the 10-year (2014 – 2024) projections calculated by Workforce Services’ Workforce Research and Analysis Division.¹⁵

**TOP 10 FASTEST-GROWING OCCUPATION GROUPS
ACCORDING TO THE 10-YEAR PROJECTIONS
(2014 – 2024), EXPECTED GROWTH**

- 44.4%** Computer and Mathematical Occupations
- 35%** Healthcare Support Occupations
- 32.7%** Personal Care and Service Occupations
- 32.6%** Construction and Extraction Occupations
- 32.5%** Business and Financial Operations Occupations
- 32.2%** Healthcare Practitioners and Technical Occupations
- 32.1%** Food Preparation and Serving Related Occupations
- 27.3%** Management Occupations
- 26.9%** Transportation and Material Moving Occupations
- 26.9%** Arts, Design, Entertainment, Sports, and Media Occupations

(Due to the nature of the community and social service related occupations, which require a higher degree of education than offered by Utah’s CTE providers, this category has been removed from the list.)



In this analysis, the areas and the programs therein are the aggregated programs provisioned by USHE and UCAT. Below is a table depicting the percentage of occupations represented in the programs offered within the respective areas. For example, the Wasatch Front South area (composed of Tooele, and Salt Lake counties) is serviced by SLCC and the TATC; these two campuses provide programs that represent all 10 of the fastest-growing occupations. In comparison, the Southeast area (composed of Grand and San Juan counties) provides programs that align with a 60 percent of the fastest-growing occupations. A complete list of the institution-county-area mapping is offered in the appendix.

This metric provides evidence of the extent to which a service area provides programs to meet the demand of fast growing occupations. As expected, due to the geographic location of campuses and programs, Castle Country,

Central Utah, Southeast and the Uintah Basin areas are underserved in location, programs and ultimately the production of students who can be employable by fast-growing occupations. It is important to note that the analysis considers labor mobility and views all areas as homogenous; this is to say, labor is able to freely move between areas, and all areas demand the same occupations. This is clearly not the case in reality, however. Labor is not always mobile, and all areas exhibit some variation in the type of labor demanded.

Area	Counties	Percent
Bear River	Box Elder, Cache, Rich	90%
Castle Country	Carbon, Emery	70%
Central Utah	Sanpete, Millard, Sevier, Piute, Wayne	70%
Mountainland	Summit, Utah, Wasatch, Juab	90%
Southeast	Grand, San Juan	60%
Southwest	Iron, Garfield, Kane, Washington, Beaver	90%
Uintah Basin	Daggett, Duchesne, Uintah	60%
Wasatch Front North	Weber, Morgan, Davis	90%
Wasatch Front South	Tooele, Salt Lake	100%



**Percentage of CTE programs offered within the area that include training for the top 10 occupation projected for the fastest growth from 2014 to 2024*

DUPLICATION. Duplication of services is inefficient and costly, wasting precious funds. In order to understand the relationship between the provision of programs and services, studies have been conducted by Utah's legislature in the past to ascertain the extent to which programs and service areas are redundant. To summarize the findings of these reports:

- **USBE and UCAT:** “While potential for duplication exists, duplication of efforts between secondary schools and ATCs is minimal. Career and Technical Education (CTE) stakeholders are well aware of concerns regarding duplication and generally strive to effectively use limited resources through coordination.”¹⁶
- **USHE and UCAT:** “Using data available from IPEDS, we analyzed completions for UCAT campuses and USHE institutions for the 2012–2014 years (the most recent data available). Of 292 distinct 6-digit USHE CIP codes over that time, 33 of those CIP codes were also found in the UCAT system that awarded degrees at the same level (e.g., one-year certificates at the same CIP code). For further analysis, we looked at where duplication may exist within service areas. Of the 33 CIP codes that awarded degrees of the same level, only five of those awarded degrees at the same level in the same CIP code in the same service region.”¹⁷

According to these two reports, there is little evidence of program duplication across the three CTE agencies. This is congruent with the age and geographic data presented previously; the three agencies provide services for dissimilar demographic groups and, to a large extent, different geographic locations.

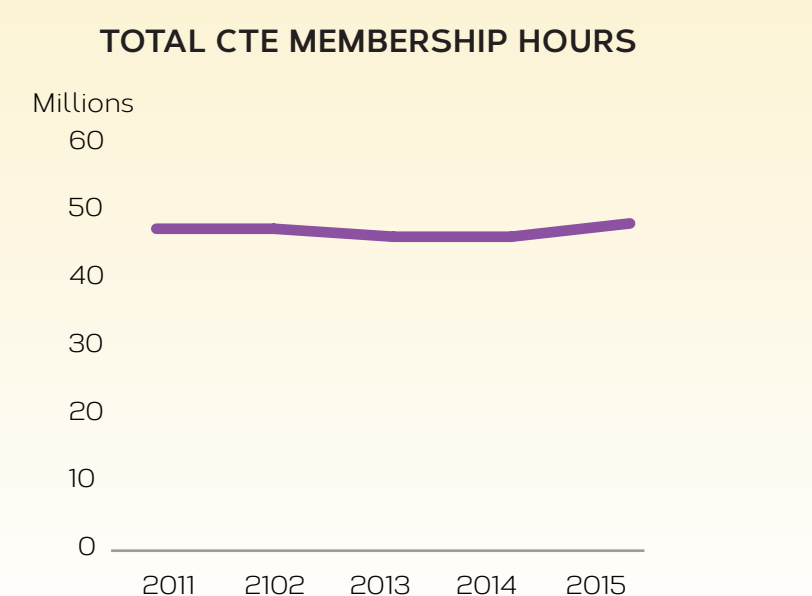
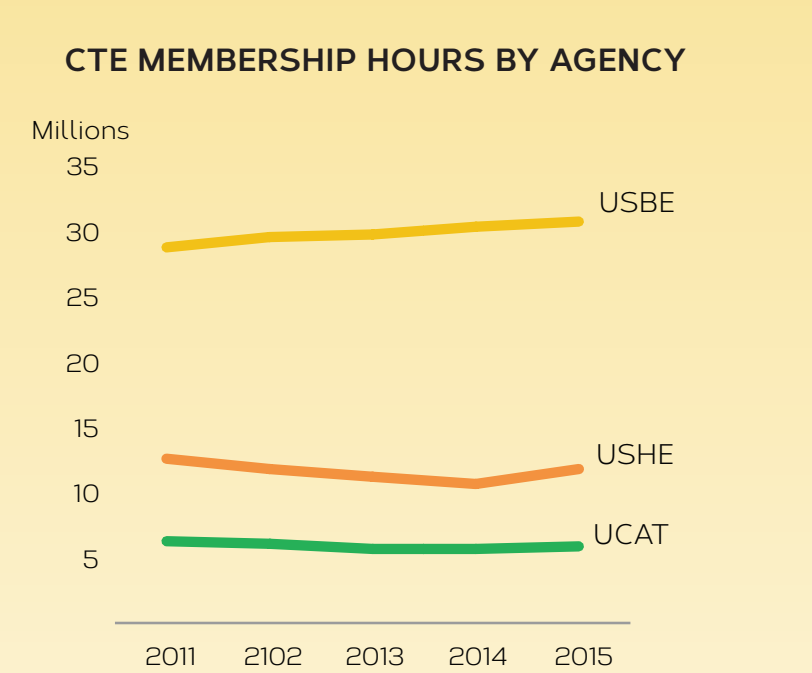
TOTAL CTE MEMBERSHIP HOURS AS A METRIC OF NUMBERS SERVED

The three CTE agencies track the number of students served through differing metrics. UCAT measures the number of hours a student receives instruction, whereas USBE and USHE utilize number of credits, and how

they define credit hours differs. In this analysis, membership hours are utilized across all three agencies to more consistently compare the numbers served. The membership hours provided by UCAT are the direct outcome of a person being scheduled an hour of instruction, whereas USBE and USHE are calculated through an equivalency function; this is important to note as the measurements have a potential to be unequal (equivalence function for USHE and USBE: one credit hour = 30 membership hours).

The membership hours have stayed consistent within and across the agencies and through the years. On average, USBE¹⁸, USHE¹⁹ and UCAT²⁰ have produced a total of 30 million, 11 million, and 6 million membership hours a year, respectively — or, as a combined educational structure, approximately 47 million membership hours per year. Due to the sheer size of USBE, it is logical that the largest share of the membership hours would be provided by this agency. CTE is rather integrated into the fabric of compulsory education. USHE comes in second, for membership hours, which is significant, considering the size difference between USHE and USBE in terms of students. This is to say, although a smaller number of students engage in USHE’s CTE education than in USBE’s, these students are more intensive in their CTE. Lastly, UCAT provides the remaining CTE membership hours. Although UCAT is institutionally smaller when compared to USHE, the number of membership hours provided by UCAT is significant.

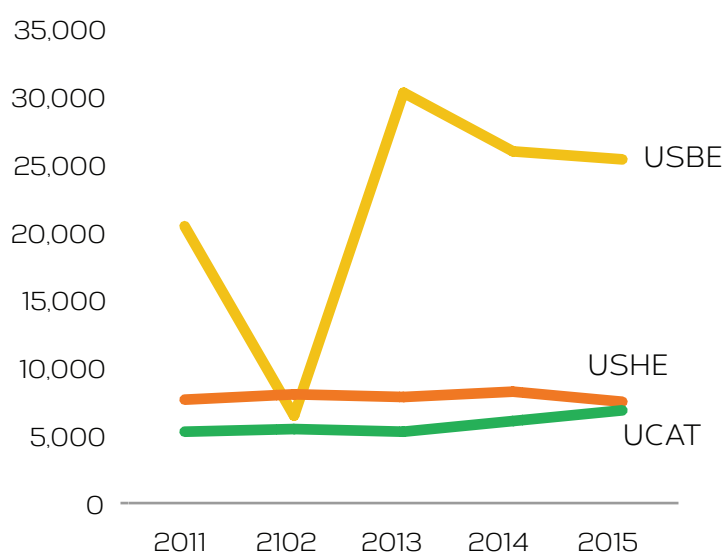
NUMBER OF AWARDS ISSUED. The successful final outcome of career and technical education is an award. Awards come in the form of certificates of completion, industry-related certificates, competency-based certificates, and associate of applied science (AAS) degrees, the latter being offered exclusively through USHE. Awards are assigned a Classification of Instructional Programs (CIP) code under the National Center for Education Statistics (NCES) taxonomic scheme.²¹ CIP codes are six digits, with the first two digits designating the CIP family. For example, CIP code 52.0301 represents programs in the accounting category. In this example, the CIP family 52 is labeled “business, management, marketing, and related support services.” The certificate data analyzed in this section is aggregated at the CIP family; at the institutional level, this is done



to provide a clear analysis of the number of awards issued by the agencies. It is important to note that for USBE the number of awards includes those individuals who completed a CTE pathway of study, for USHE the number of awards includes those individuals who completed a CTE designated certificate; and, lastly, for UCAT the number of awards includes those individuals who completed an accredited program and were non-secondary. The totals do not include non-accredited programs, industry certifications, or individuals who were in secondary schools. “Total awards” refer to a subgroup of the complete number of CTE-related awards given by the agencies.

TOTAL AWARDS²². In the process of reviewing the total number of awards issued in the time period of 2011–2015, it is imperative that the performance of USBE be provided with additional context. In 2012, USBE migrated from a legacy clearinghouse data collection system to the UTREx system. An outcome of the migration resulted in the inaccurate data for the number of CTE awards issued in 2012. An educated estimation of the true value for 2012 is 25,000 awards and will be used as a proxy for analysis to maintain consistency.

CTE AWARDS BY AGENCY



Regardless of the issue at hand with the 2012 certificate data, there are two primary assumptions drawn from the year-over-year data: USBE on average grants a greater number of awards compared to USHE and UCAT, and USHE and UCAT grant a similar number of awards. Although USHE provides more membership hours than UCAT, its programs take considerably longer to complete compared to UCAT’s programs. Consequently, it may give fewer awards relative to the number of membership hours, but many of those are associate degrees instead of certificates.

Due to the sheer volume of membership hours, USBE should have the highest number of awards. Compared to USHE and UCAT, USBE services a greater number of individuals; therefore, the

data should reflect the difference in volume. Also, the membership hours include all CTE-related instruction, including UCAT’s non-certificate programs. As previously mentioned, industry certificates are not included in this total. Applying this criteria affects the total number of awards in a given year when comparing UCAT to USHE, especially since a significant amount of CTE activity for UCAT is related to industry certifications, secondary students and non-certificate yielding instruction.

AWARDS BY CIP FAMILY. The total number of awards is important in understanding the overall output of graduates into the labor market. In addition, the type of graduates and their acquired skills are relevant to the analyses at hand.

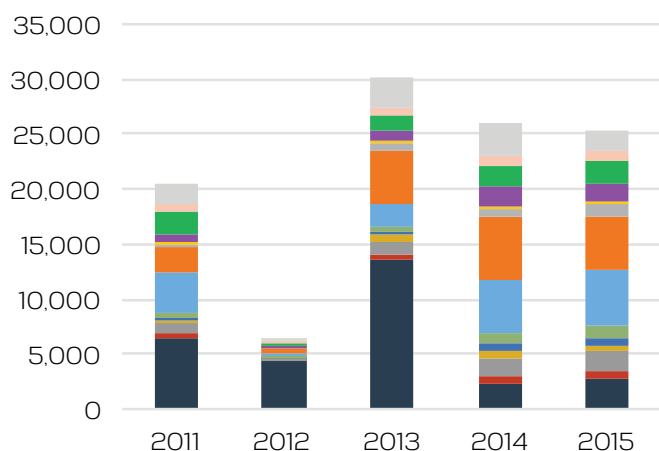
**THE SUCCESSFUL FINAL
OUTCOME OF CAREER AND
TECHNICAL EDUCATION IS
AN AWARD.**

USBE. In 2011–2015, USBE granted the largest share of USBE awards to those whose studies fell under the “agriculture, agriculture operations and related sciences” CIP family. This family includes specializations such as:

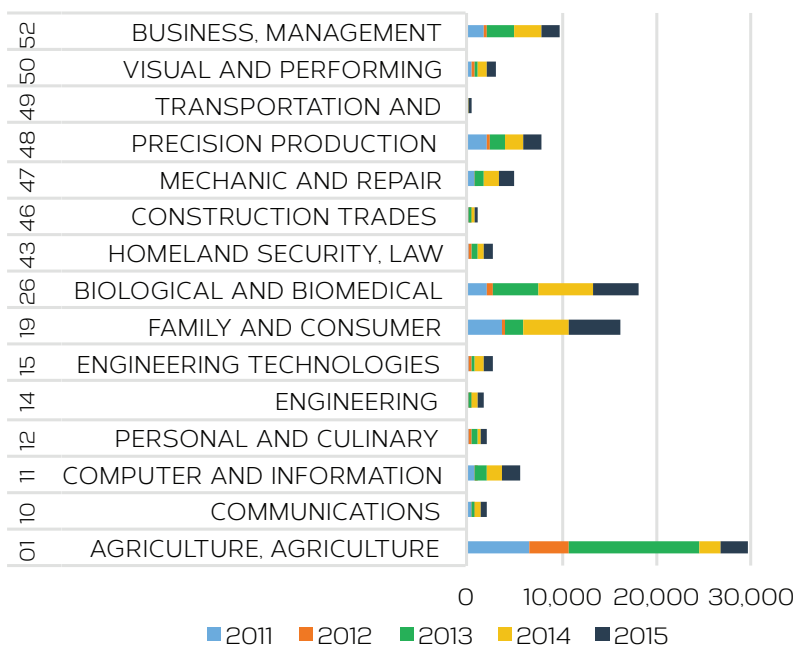
- Agricultural systems technology
- Animal sciences
- Food production and processing systems
- Horticultural science



The next four largest groups are biological and biomedical sciences; family and consumer sciences/human sciences; business, management, marketing and related support services; and precision production. The performance of the total number of awards issued is an increasing function of time, with the exception of the year 2012. The number of awards continues to climb year over year; however, there has been a measurable decrease from 2014 to 2015.



01 10 11 12 14 15 19 26
43 46 47 48 49 50 52



USHE. Unlike USBE, USHE awarded relatively few awards in the agriculture-related CIP family. Instead, USHE awarded a large number of awards in the “liberal arts and sciences, general studies and humanities” CIP family (24). This CIP family contains several specializations; however, in this case, the majority of students graduated under a program labeled as “general studies.” This specialization provides a broad introduction to general skills required to succeed in the work place, and ultimately, a student’s life. Only Individuals who graduated in the CIP family and completed a CTE concentration were included in this count of awards.

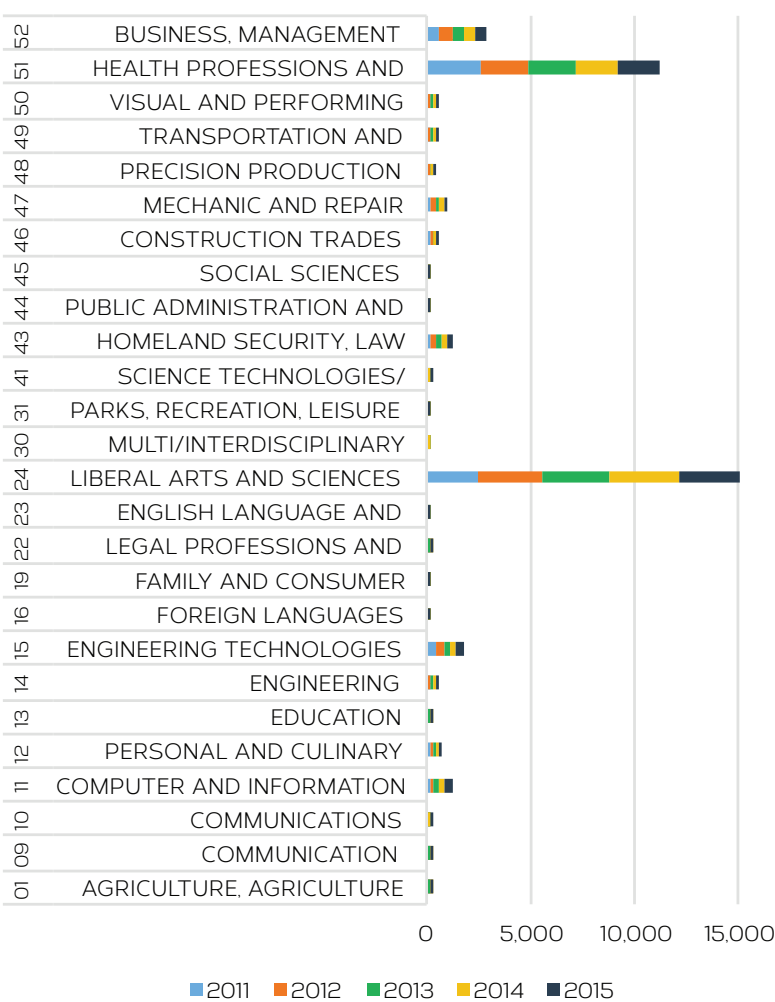
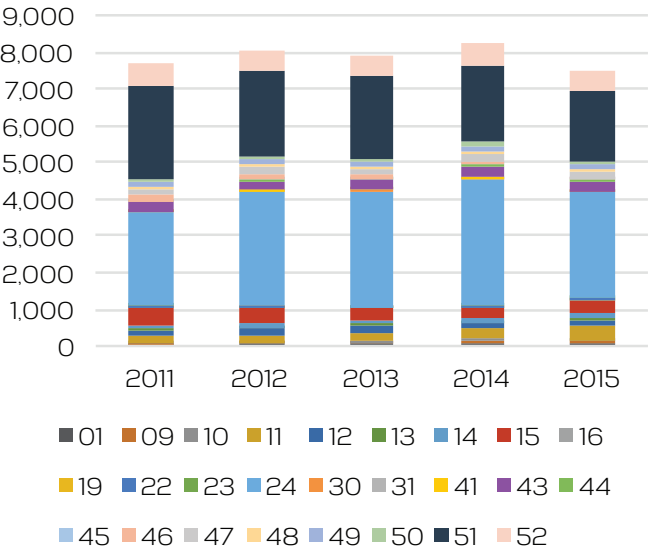
Rounding out the top five award categories granted by USBE in 2011–2015 were the CIP families of health professions, business management, engineering technologies and homeland security. Considering the

highly specialized CIP family of health professions, and discounting the less specialized CIP family of general studies, USHE produced a tremendous number of students who have the skill set to work in the highly specialized labor market of health professions. This family includes specializations such as:

- Registered nurse
- Pharmacy technician
- Respiratory care therapist
- Medical assistant



Reviewing the total number of awards issued in the selection of years studied, there appears to be little variation from year to year or among the awards granted per CIP family. This provides evidence to the fact that demand for USHE’s career and technical education has remained consistent in the last five years.



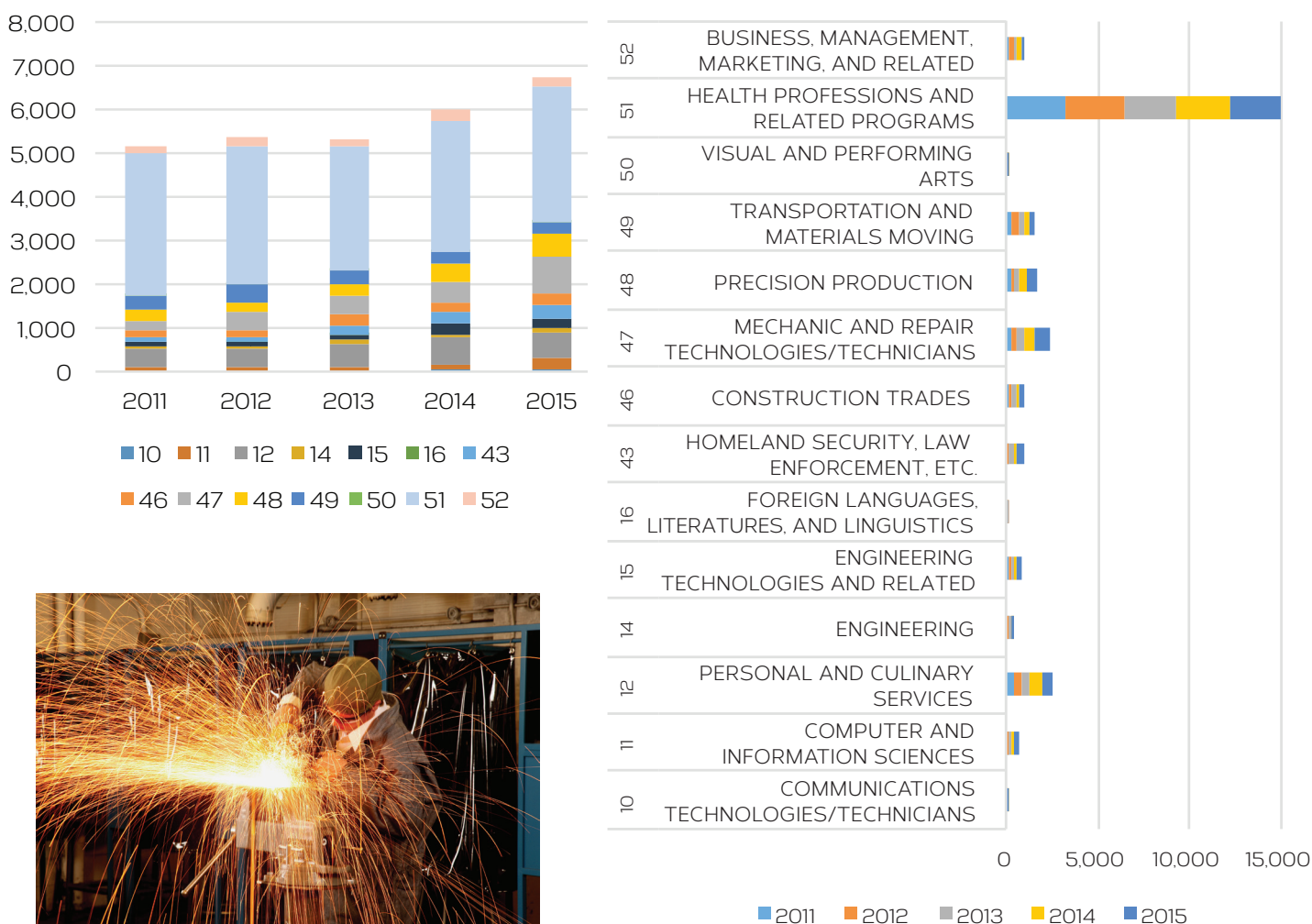
UCAT. Similar to USHE, UCAT awarded a tremendous number of awards in the health professions CIP family. Unlike USHE, however, UCAT awarded the most in this family. Furthermore, the number of certificates represented in the table above are for certificate-seeking students, and does not cover all programs available through UCAT. In addition, UCAT awarded a large number of awards in personal and culinary services, mechanic and repair technologies, precision production, and transportation and material moving. These CIP families contain specializations such as:

- Culinary arts
- Auto collision technician
- Machining technology
- Commercial driver license



**GROWTH
OF UCAT
AWARDS HAS
INCREASED
RECENTLY.**

The trend of the number of awards granted between 2011 and 2015 is an increasing function of time. There is an overall increase in the demand for the awards offered at UCAT, specifically in the homeland security, mechanic and repair technologies, and computer and information sciences CIP families, with annual growth rates of 42 percent, 37 percent, and 34 percent respectively.

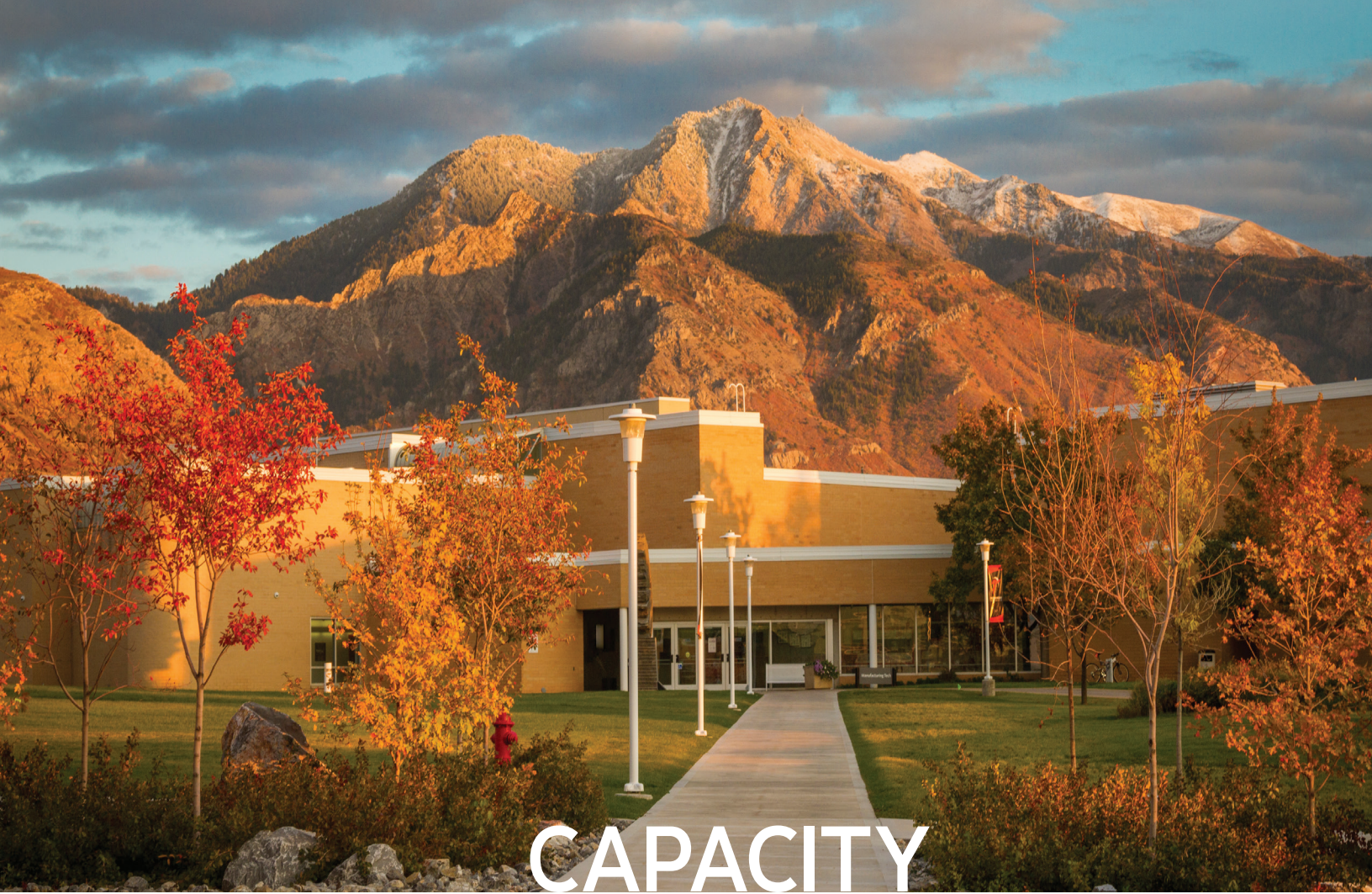


Patterns emerge in the awards issued data:

- Specialization
 - USBE — Agriculture
 - USHE — General and Health
 - UCAT — Health
- Demand
 - USBE — Recently decreasing
 - USHE — Consistent
 - UCAT — Increasing



These high-level summaries of five years of volume of awards issued help in consolidating the presented information into a more easily understood fashion; it is not intended for use in policy due to the limited range of the data and the way in which it glosses over the complex nature of labor demand and supply.





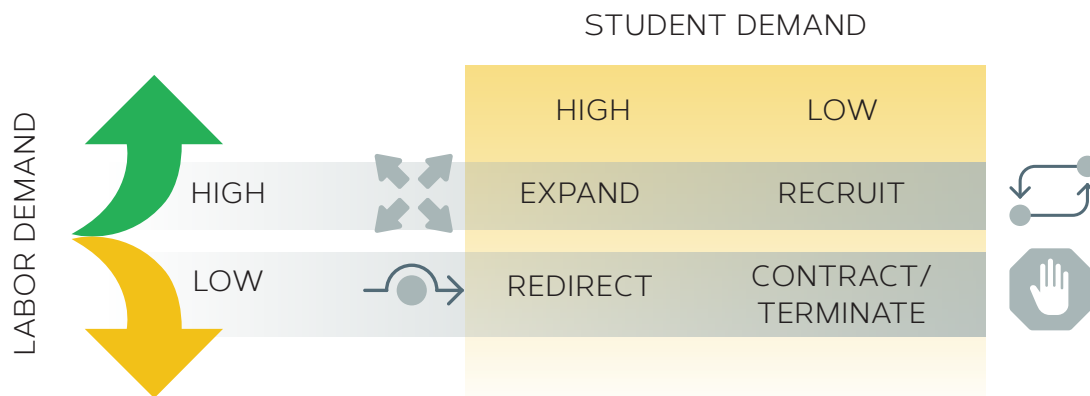
CAPACITY

LABOR MARKET DEMAND AND EDUCATIONAL DEMAND

MODEL OF CAPACITY. Educational institutions choose which programs to offer based on both student demand for certain programs and the local labor demand for certain professions. An analysis of which programs have high or low demand from the labor market and from students will provide the fundamental paradigm for expanding on the concept of capacity. With the exception of a few programs which possess an external limit on the number of students in the program (e.g., nursing licensure) and, therefore, employee supply, the majority of programs offered by USHE or UCAT are provided on the basis of historical behaviors associated with labor and student demand. This is to say, programs are offered where a certain threshold of demand from students or the labor market exists.

Merely presenting operational capacity by campus, aggregated at the agency level, does not provide sufficient texture to the analysis. Employing a two-dimensional matrix, in which the horizontal dimension is the student demand and the vertical labor market demand, creates four distinct groups to characterize where programs fall based on the confluence of student and labor demand. A visual of the model is provided below.


CAPACITY MODEL



The top left quadrant, labeled “Expand,” represents the scenario in which both student demand and labor demand are high. In this quadrant, the correct response from the educational agency would be to expand capacity in a

given program. This would entail diverting additional resources to the appropriate campus and department in order to hire more instructors, purchase additional physical capital (equipment), construct new instructional/support buildings, etc. Conversely, in the bottom-right quadrant, labeled “Contract/Terminate,” the most efficient action undertaken by the agency would be to contract the capacity of the program or, in the event that the program costs outweigh its benefit, terminate said program. In the case where the student demand is low but labor demand is high, as in the top-right quadrant labeled “Recruit,” the agency should leverage marketing or recruitment to increase student demand, thereby increasing the program’s capacity to meet the labor market demand. Lastly, when a program has high student demand and low labor demand, as in the bottom-left quadrant labeled “Redirect,” the agency would achieve equilibrium by redirecting students or placing restrictions on the number of students awarded in a given program. As a caveat, the data in this report represents anecdotal information from the institutions and does not provide enough nuance or detail to determine whether to continue or terminate a given program. The institution would have to conduct a thorough analysis to ascertain the merit of continuing or terminating a given program.


USHE CAPACITY



		STUDENT DEMAND	
		HIGH	LOW
LABOR DEMAND	HIGH	DSU: Health Science Programs SLCC: Electrical and Plumbing Apprenticeship UVU: Digital Media USU: Health Science Programs SLCC SAT: Health Science Programs WSU: Health Science Programs SC: Health, Agriculture, Welding Science Programs	DSU: Computer Forensics, Pre-Engineering, and Marketing SLCC: Diesel Systems Technology UVU: Automotive Mechanics USU: IT Support and Web Development, Electrical Apprenticeship SLCC SAT: CDL, Heavy and Tractor-Trailer Truck Driver WSU: Paramedic Studies, Automotive Technology SC: Construction Management, Computer Networking, Automotive Technology, Diesel and Heavy Duty Driver
	LOW	DSU: Media Production, Business SLCC: Construction Management UVU: Not Applicable USU: Automotive Program, Cosmetology SLCC SAT: CNA, Nursing Assistant WSU: Respiratory Therapy SC: Cosmetology, Barbering, Salon Business, Nail Technology	DSU: Early Childhood Education and Automotive Mechanics SLCC: HVAC Apprenticeship UVU: Aviation Science USU: Construction SLCC SAT: Administrative Office Specialist WSU: Electronics Engineering Technology SC: Pharmacy Technician, Outdoor Leadership Entrepreneurship

Reviewing the results from USHE's application of the model reveals a pattern at the agency level. Regarding programs that are recommended for expansion, the majority of institutions recommend health science programs to be expanded. These programs often have capital limitations, such as lab space and equipment, as well as licensure limitations. Conversely, in the "contract" quadrant, there is a lack of uniformity or consensus across the institutions. The programs recommended range from automotive science to construction and administration. The "recruit" quadrant is dominated by IT and transportation programs; anecdotal information from the campuses describe individuals opting against an IT program due to the quantitative rigor associated with these types of programs. Finally, the "redirect" quadrant is overrepresented by the personal service industry, specifically the cosmetology programs.

UCAT CAPACITY. UCAT possesses a similar pattern in the "expand" quadrant; the health science programs are robustly represented. However, UCAT likewise faces physical capital and licensure limitations that challenge expansion. In UCAT's "contract" quadrant, "blue collar" jobs abound. Construction, composites, CNC/CAM machining are demanding careers with considerable time invested in manual labor. The "recruit" quadrant shows a need for CDL, composites and health sciences. Anecdotal information point to scheduling, cost and a lack of marketing as the causes of low student demand in these programs. Lastly, a hodgepodge of programs most represented by cosmetology, complete the "redirect" quadrant. No real pattern exists in the quadrant.



		STUDENT DEMAND	
		HIGH	LOW
LABOR DEMAND	HIGH	BATC: Health Science and Nursing DXATC: Pharmacy Technician OWATC: Practical Nursing DATC: Welding MATC: Web Development Program TATC: Practical Nurse Program UBATC: CDL	BATC: CDL, Business Technology DXATC: CNC Machining OWATC: Composites DATC: Composites, CNC Machining MATC: Surgical Technology Program TATC: CDL UBATC: Practical Nursing
	LOW	BATC: Media Design DXATC: Not Applicable OWATC: Not Applicable DATC: Cosmetology MATC: Pharmacy Technology Program TATC: Medical Office Laboratory Technician UBATC: Not Applicable	BATC: Building Technology DXATC: Office Management OWATC: Construction Basics DATC: Not Applicable MATC: Composite TATC: Not Applicable UBATC: CAD/CAM Machining Program

SUMMARY OF CAPACITY. Patterns that exist across agencies further clarify the concept of capacity constructed by this analysis. Most acutely, the pattern of expansion needed for health science programs shows an opportunity for growth within a program demanded by both students and the labor market. Students may gravitate to such programs because of the clear economic outcome they provide. For example, an individual who graduates with an RN certification/degree has an obvious path towards obtaining a high-paying position with a hospital, care facility, hospice center or any health-science-related establishment. According to anecdotal information, however, the agencies have strict limitations associated with these programs based on physical capital and licensure limitations, which curbs the ability to expand and meet this growing demand.

The “recruit” quadrant highlights opportunities to expand marketing efforts to better inform prospective students about in-demand career opportunities. There is the possibility students are self-selecting away from these quantitatively rigorous programs, however. In the “redirect” and “contract” quadrants, the diversity of programs provides evidence for the geographic nature of labor demand and its effect on local economies. For example, Mountainland Applied Technology College (MATC) offers the composite program as an example of low labor and student demand, whereas Ogden-Weber Applied Technology College (OWATC) and Davis Applied Technology College (DATC) categorize composite as having a high labor demand and low student demand. These differences in demand exhibit geographic specific situations. Finally, this static representation of the capacity model fails to incorporate the ebb and flow of labor and student demand as changes occur in the economy. The model is optimized to represent the current labor and student demand.



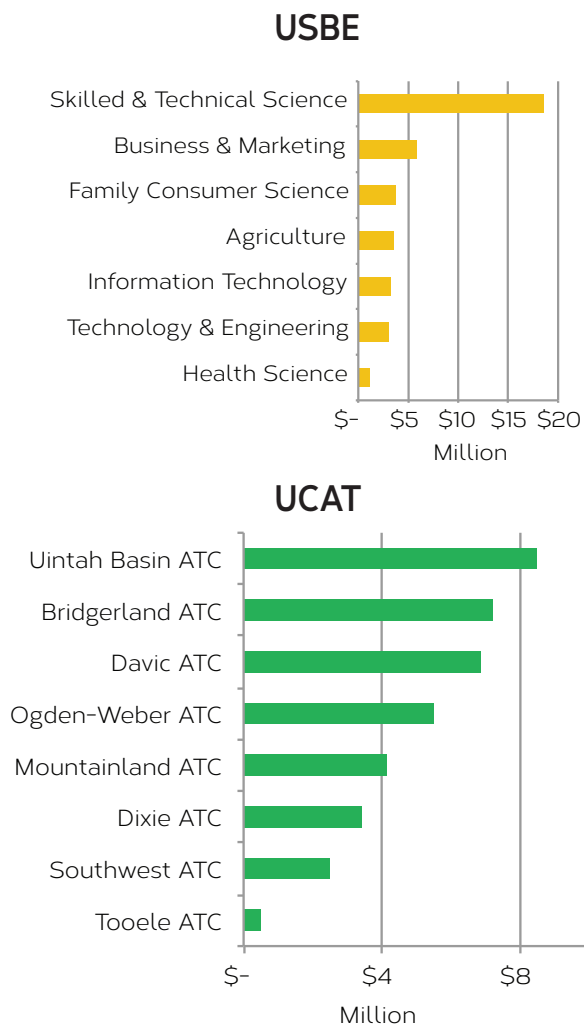
FINANCIALS

This section of the report seeks to complete the description of the CTE agencies through reviewing data related to financial information such as materials and equipment, sources and volumes of funding, revenue streams, and cost per student served. A caveat must be presented before proceeding: these are highly dissimilar agencies. In comparing financial data across agencies, it is important to note these stark differences to provide context to the analysis. Especially relevant are economies of scale borne from the necessities associated with the number of students serviced, the total existing physical capital stock and the agency's purpose (compulsory versus voluntary). These factors contribute to the level of economies of scale employable, and employed, by the given agency. Furthermore, these differences reflect financial outcomes, this being especially relevant when considering the cost per student.

MATERIALS AND EQUIPMENT²³. Career and technical education agencies invest in materials and equipment for the purpose of providing the most relevant learning environment. Programs require resources in order to purchase physical capital for instructional purposes. The specializations within CTE depend heavily on technology; these are physical occupations that require physical capital to work properly (e.g., truck driver, construction, IT, nursing). Implements of the trade are varied across programs, requiring differing levels of capital allocation. In this section, the materials and equipment purchased in the time period between 2011 and 2015 are provided. These figures represent the most accurate financial data available given the limitations of the financial systems employed — they are not equitable. For example, the USBE figures are of all equipment purchased of value higher than \$1,000 by program. Whereas, USHE has provided information related to equipment of value above \$5,000 by program instead. Lastly, the figures for UCAT are for all equipment and materials purchased in the time frame by institution. The differences in reporting are due to structural differences in financial reporting and time limitations associated with the capturing of highly nuanced financial data.

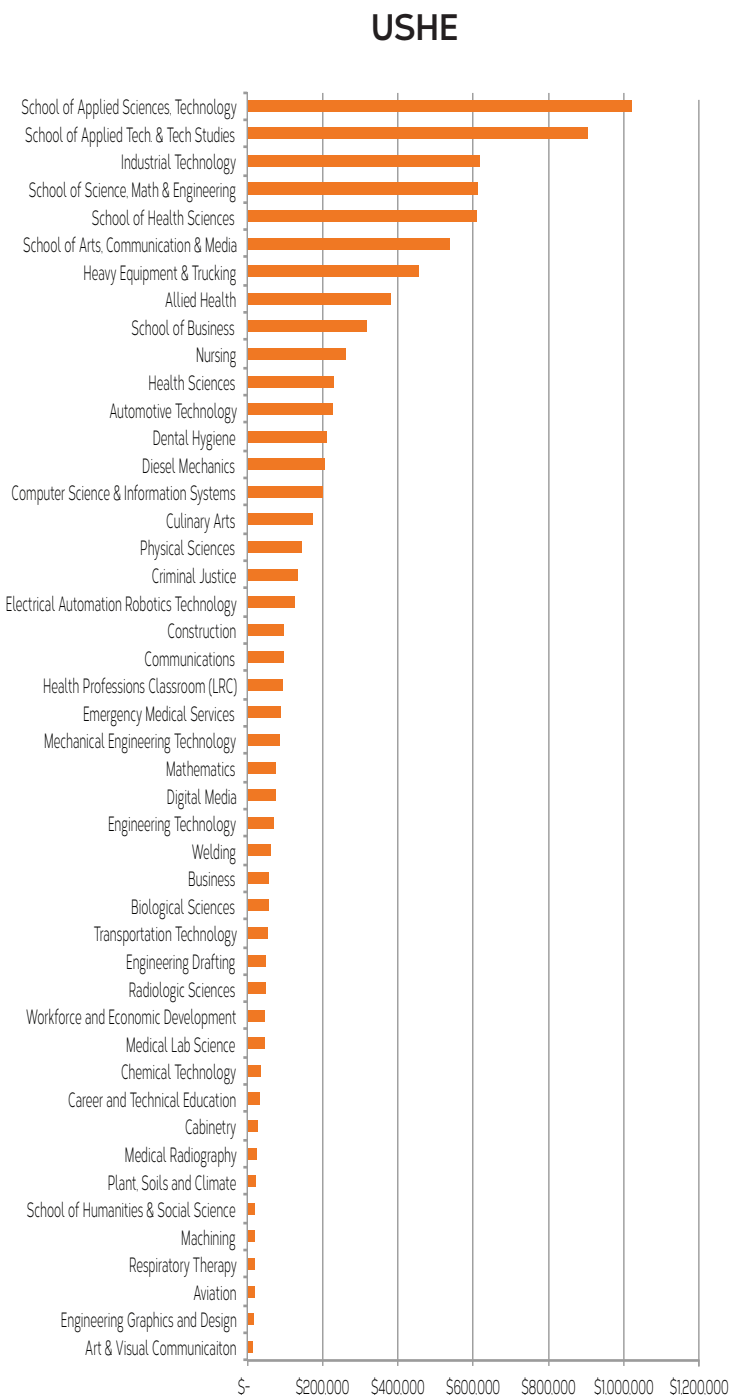
The total expenditure of materials and equipment was \$39 million for USBE, \$8.70 million for USHE and \$38 million for UCAT. These values are representative of the materials and equipment purchased by these institutions between 2011 and 2015 given the criteria previously provided. Although the data are not effective for relative analysis, they are useful for providing insight into intra-agency patterns. There are apparent differences in the volumes associated with the programs offered at a given agency. For example, USBE's agriculture program requires more investment in materials and equipment than does their technology and engineering program. The uneven distribution provides evidence to the fact that there is a significant difference in cost of materials and equipment

across programs, the size of the program being a critical factor. Lastly, this pattern is present in UCAT's data across institutions (there are several factors at play producing this outcome, one of the most obvious is the difference in institutions' sizes).



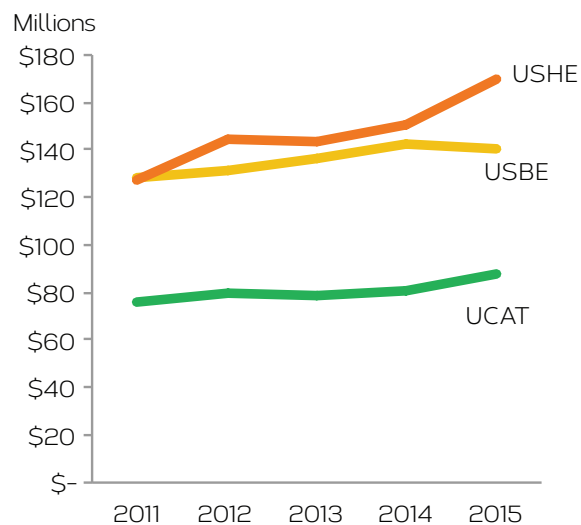
**2011 and 2012 are not included for Bridgerland ATC (a financial system upgrade has rendered these historical data difficult to obtain in the time period associated with the creation of this report)*

**SIZE OF PROGRAMS IS
RELEVANT TO COST OF
MATERIALS AND EQUIPMENT.**



FUNDING – COST OF CTE PROGRAMS. The cost of offering a given CTE program is not limited to materials and equipment. There are direct and full costs of instruction. Full costs include teacher wages and benefits, electricity, water, heat, support staff wages and benefits, and additional factors of production. Full costs are related to the administration of the agencies, such as academic and institutional support, student services, core expenses (e.g., building maintenance, utilities) and several other expenses that arise from maintaining massive educational agencies. They are ancillary to the provision of CTE. Direct costs, on the other hand, are expenses that arise specifically from the instruction of CTE programs.

FULL COSTS BY AGENCY AND YEAR

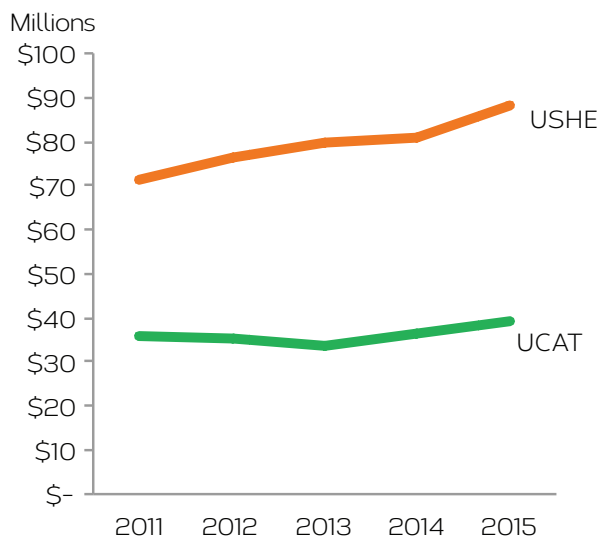


According to the cost data, USHE²⁴ possesses the highest full costs across the three CTE agencies. This fact is consistent with USHE's higher awards output compared to UCAT. Considering the significant number of additional programs USHE provides compared to USBE and UCAT, there is a significant cost associated with providing a highly diverse set of programs. Additionally, USHE possesses significantly larger institutions and campuses, and therefore has higher costs associated with upkeep. Following this logic, USBE²⁵ experiences high full costs due to the broad distribution of its programs, and the sheer volume of membership hours provided. UCAT²⁶ experiences the lowest full costs. The growth rate of full costs are varied across the agencies, and are 2.4 percent, 7.6 percent, and 4.3 percent for USBE, USHE and UCAT respectively. The difference in growth rates of

the full costs are varied and beyond the scope of this report.

The comparison of direct costs across the agencies is more relevant to the analysis at hand. In the following graphs USBE is not included in the graphs below because the detailed data associated with direct costs are not available.

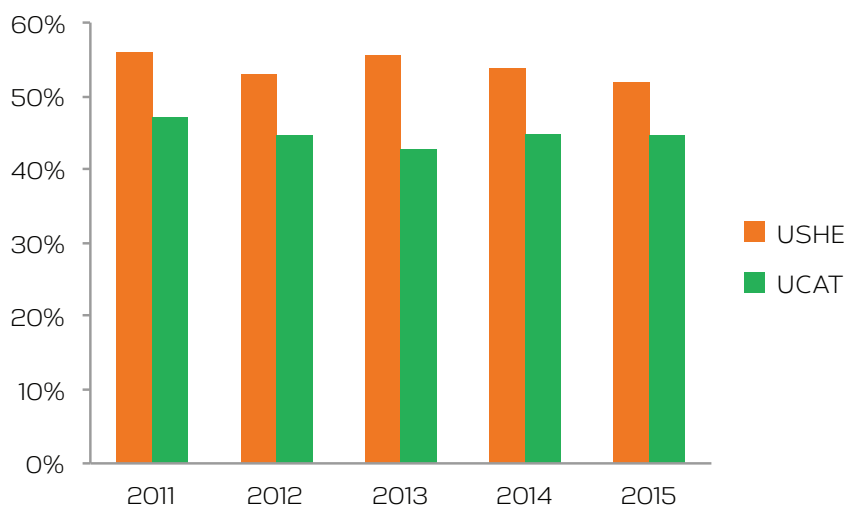
DIRECT COSTS BY AGENCY AND YEAR



As would be predicted by the full cost data, USHE has higher direct costs associated with instruction than UCAT. In addition, USHE's annual growth associated with the direct and full costs of instruction is greater than UCAT's. The agencies have annual growth rates of 5.5 percent and 2.4 percent, respectively, for direct costs of instruction — which means USHE's direct instructional costs have grown at nearly twice the rate of UCAT's each year. The pattern is similar when considering the full cost of instruction: 7.6 percent and 4.3 percent, respectively. Comparing growth rates of costs is instructive, as relative terms across agencies are more accurate and comparable than nominal terms.

Finally, ratio of direct costs to full costs provides insight into the behavior of direct costs in relation to full costs and addresses questions such as whether instructional wages have grown faster or slower than full costs. In addition, the ratio shows institutional decisions related to instructional wages and administrative costs and illustrates which is a greater share of costs.

DIRECT/FULL COST RATIO BY AGENCY AND YEAR



USHE has a higher ratio of direct to full costs. This is to say, USHE spends a greater portion of its costs in wages to instructors than UCAT does. This is potentially an outcome of aforementioned factors, such as the total share of instructors in relation to physical capital. The behavior of the ratio for USHE and UCAT is negative in relation with time, specifically from 2011 to 2015. This implies a greater growth of full costs compared to direct costs across the years, meaning ancillary instructional costs have grown faster than direct instructional

costs for USHE and UCAT (more pronounced for USHE than UCAT). This is congruent with the aforementioned fact related to the growth rate of direct and full costs.

Equipment and material costs in conjunction with full costs provide insight into the cost structure associated with the provisioning of CTE. In order to cover these costs, agencies must raise income in the form of revenue streams.

CTE REVENUE. Commonly in the United States, education is partly underwritten through taxation. However, UCAT and USHE produce additional funding through revenue streams such as tuition. USBE technically charges tuition, as well, but it is minimal. Compared to USHE and UCAT, the USBE tuition is of little value at the per-person level of analysis.

THE SHARE OF REVENUE APPORTIONED FOR CTE AND PROVIDED TO USBE, USHE, AND UCAT HAS BEEN AN INCREASING FUNCTION OF TIME.

USBE 2011 – 2015 DESCRIPTION OF REVENUE²⁷

Year	State Appropriations	Local Match	Total
2015	\$ 68,764,547	\$ 72,137,948	\$ 140,902,494
2014	\$ 65,528,338	\$ 77,384,359	\$ 142,912,697
2013	\$ 63,615,592	\$ 72,371,742	\$ 135,987,334
2012	\$ 60,762,635	\$ 70,797,777	\$ 131,560,412
2011	\$ 59,303,692	\$ 69,014,520	\$ 128,318,211
Total	\$ 317,974,802	\$ 361,706,346	\$ 679,681,148

USHE 2011 – 2015 DESCRIPTION OF REVENUE²⁸

Year	State Appropriations	Tuition Revenue	Total
2015	\$ 89,824,308	\$ 80,428,191	\$ 170,252,499
2014	\$ 76,791,221	\$ 73,939,736	\$ 150,730,957
2013	\$ 73,429,125	\$ 69,799,786	\$ 143,228,991
2012	\$ 78,715,690	\$ 63,734,479	\$ 144,450,169
2011	\$ 73,435,799	\$ 53,733,549	\$ 127,169,348
Total	\$ 392,196,143	\$ 343,635,741	\$ 735,831,884

UCAT 2011 – 2015 DESCRIPTION OF REVENUE²⁹

Year	State Appropriations	Tuition Revenue	Total
2015	\$ 65,794,100	\$ 7,504,300	\$ 73,479,400
2014	\$ 57,830,600	\$ 7,376,100	\$ 65,206,700
2013	\$ 51,221,400	\$ 6,763,000	\$ 57,984,400
2012	\$ 47,895,800	\$ 6,390,400	\$ 54,286,200
2011	\$ 48,019,600	\$ 5,921,400	\$ 53,941,000
Total	\$ 270,942,500	\$ 33,955,200	\$ 304,897,700

The share of revenue, apportioned for CTE and provided to USBE, USHE and UCAT has been an increasing function of time. From 2011 to 2015, state appropriations for each agency have grown at a rate of 5.0 percent, 5.2 percent and 8.2 percent annually, respectively. Tuition and fees have increased by an annual rate of growth of 10.6 percent for USHE and 6.1 percent for UCAT.

Average Annual Growth Rates*			
Agency	State Appropriations	Tuition Revenue	Total
USBE	5.0%	N/A	2.3%
USHE	5.2%	10.6%	7.6%
UCAT	8.2%	6.1%	8.0%

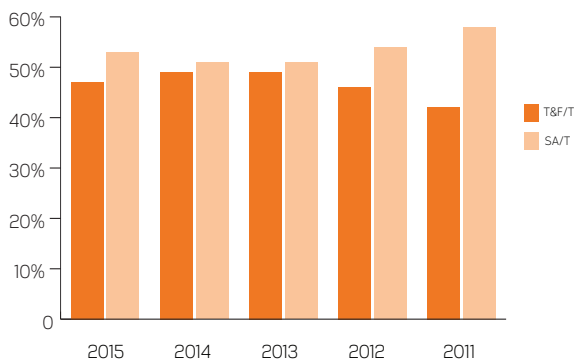


**formula utilized by BEA*

The evidence provided suggests a tremendous degree of difference between the CTE agencies, including the dependence, or lack thereof, on tuition and state appropriations for revenue. The data, represented in the bar graphs, provides the ratio of tuition versus total revenue and of state appropriations versus total revenue. The tuition ratio lends insight as to the extent to which this source of revenue is significant for USHE and UCAT.

According to the data, the revenue from tuition approaches a similar volume as that derived from state appropriations. Comparatively, the ratio of revenue from tuition and fees compared to state appropriations for UCAT is significantly lower (a fact codified by UCAT's statutory mission of providing low-cost education). This is to say, USHE depends significantly more on tuition than UCAT as a source of revenue. Conversely, UCAT has a high dependency on state appropriations for revenue, as evidenced by the observably higher ratio of state appropriations to total revenue. Consequently, policy decisions to decrease funding to these agencies theoretically would affect UCAT more significantly than USHE. This may lead to tuition rate increases to offset the decrease in state appropriations leading to a larger cost burden to UCAT students.

**USHE TUITION & STATE APPROPRIATION
TOTAL RATIO**

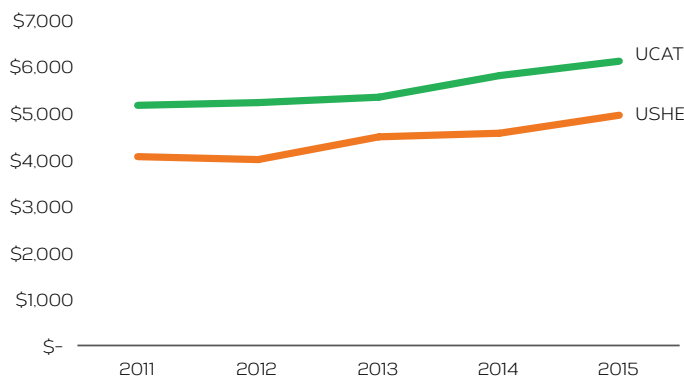


**UCAT TUITION & STATE APPROPRIATION
TOTAL RATIO**



COST PER STUDENT³⁰. Cost-per-student figures are aggregated at the agency level, and therefore, present the entire stock of CTE-related costs and membership hours. The full-time equivalent metric, or FTE, normalizes the number of membership hours to an equivalent number of full-time students where the standard formula is one FTE = 900 membership hours. It is important to re-emphasize that one membership hour for UCAT is equivalent to one hour of instruction. USHE utilizes credit hours and then calculates membership hours through an equivalence multiplier. The FTE measurement is calculated from the number of credit hours and then is multiplied by 900 to derive membership hours. The cost-per-student data below represent the FTE cost per hour of UCAT membership and the equivalent cost per credit hour for USHE. The normalization is integral to provide a more comparable set of figures for the purpose of clarity and equity across the agencies; however, it does introduce a degree of incomparability as the FTE totals are derived through separate calculations. It is the most accurate method currently available given the institutional data provided. The complete cost-per-student data is included in the appendix.

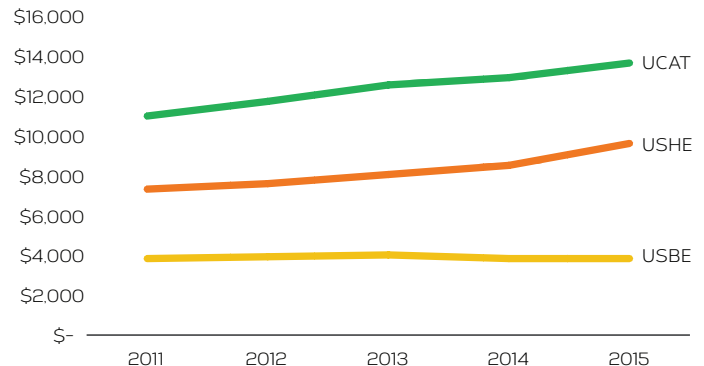
DIRECT COSTS PER FTE



The range for the direct cost ratio for USHE is \$3,995–\$4,954 and for UCAT is \$5,161–\$6,099. The direct cost ratio is an increasing function of time. This is to say, instruction costs continue to climb due to increased wages and benefits, increased number of instructors or a combination of both. The determination of this behavior is beyond the scope of the analysis at hand. Regardless of the cause, the increase in the direct cost ratio is affecting USHE and UCAT in similar fashion, providing evidence that the cause is economically systemic to the education system.

The range for the full cost ratio is \$3,807–\$3,991 for USBE, for USHE is \$7,282–\$9,565 and \$10,957–\$13,666 for UCAT. The ratio exhibits a positive correlation with time,

FULL COSTS PER FTE



similar to the direct cost/FTE ratio, and appears to affect USHE and UCAT in a similar matter. This further provides evidence that the direct and full cost ratio price increase is economically systemic to the education system. However, the pattern does not hold for USBE, as the full cost-per-FTE measure for this agency has not changed significantly in the last five years. The reason for the difference in full costs-per-FTE and the growth of the ratio are beyond the scope of the report.

The analysis of the CTE agencies' financial data, in conjunction with the analysis of the campuses, programs and capacity, further validates that these are indeed distinct agencies.



EMPLOYMENT OUTCOMES



EMPLOYMENT OUTCOMES

The individuals who pursue CTE seek to fulfill educational and, to a larger extent, occupational goals. The individual that studies nursing does so with the goal of entering the occupational field of nursing and receiving the prevailing wage associated with being a nurse. The return on investment of education is not merely limited to the individual; societies benefit greatly as well. Society underwrites education with the understanding that individuals possess human capital that improves with additional knowledge and skills. Education benefits not only its recipient but also society at large.

This section expands on the effect education has on employment and wages, including how education specialization decisions affect wages. The analysis includes graduates from USHE and UCAT exclusively. Due to the nature of the data available, USBE is not included in these analyses. State law prohibits USBE from capturing Social Security numbers from their students. As such, employment and educational data are unable to be bound to a given individual.

In order to match education and employment records, USHE and UCAT provided a list of CTE graduates during 2011 to 2015 to Workforce Services; these graduates were matched to unemployment insurance (UI) records through their Social Security numbers. UI records are collected from covered employment throughout the State of Utah for the purpose of maintaining the unemployment insurance system. The records contain employment information, including wages and industry. Occupation is not included in the current UI data. This data provides the foundation for answering how education affects the aforementioned topics.

NEW ENTRANTS (EMPLOYMENT EFFECT). The “new entrant” group is made up of CTE graduates from USHE and UCAT who did not have UI records in the four quarters prior to graduation as well as in the quarter of graduation. These individuals are considered new entrants into the labor market for the purpose at hand, and are prime subjects for the analysis of how education affects gaining employment. The percent of new entrants across the agencies was not equal. For USHE, the incidence of new entrants was 19.6 percent, compared to UCAT’s incidence of 24.8 percent. This may stem from the difference in demographics across the agencies; a more thorough analysis of the difference is beyond the scope of this report. There exist two primary considerations regarding the “new entrant” group and their employment performance: attainment, and retention.

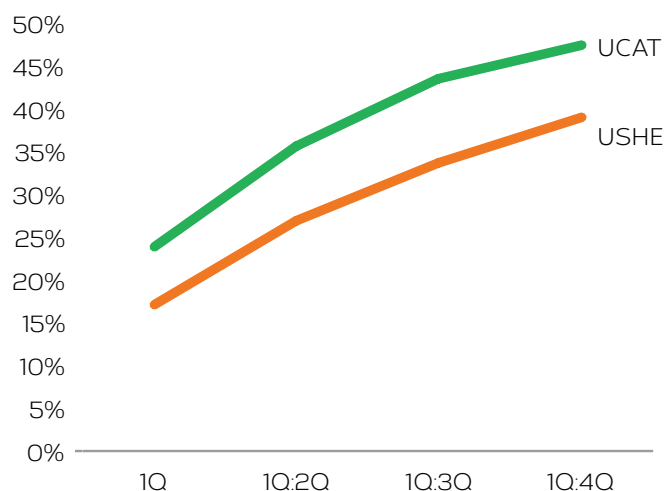
EMPLOYMENT ATTAINMENT. Attainment refers to gaining employment. In this context, this data is captured through the existence of UI wage records post-graduation. As part of the “new entrant” group, an

individual would need to have gained employment after graduation through an employer covered in the UI system. This is critical for context. Some graduates gain employment but lack UI benefits and, therefore, would not be considered employed in this analysis due to the lack of UI data. This is particularly relevant for self-employed individuals or exempt organizations. For example, an individual who graduates with a construction certificate (brick mason, cement technician... etc.) may be self-employed, and therefore, would not be covered by the unemployment insurance system. In the data at hand, they would be described as absent from the unemployment system during these quarters and, therefore, would not be in the “employed” category. This is a limitation to the methodology utilized; however, there is not a more effective methodology to ascertain employment than leveraging UI records for this purpose. Furthermore, a large portion of employment is covered in the UI system, so the data is still meaningful.

According to UI data, approximately 17 percent of the USHE graduates and 24 percent of the UCAT graduates are employed within the first quarter post-graduation. On average, one in five graduates across the agencies gains employment within the first three months post-graduation. Attainment is positively correlated with time. This is to be expected, because as time passes following graduation, the probability that a graduate will be employed increases. The highest employment rate comes in the last quarter of analysis, the fourth quarter, with an attainment rate approaching 39 percent for USHE graduates and 48 percent for UCAT graduates.

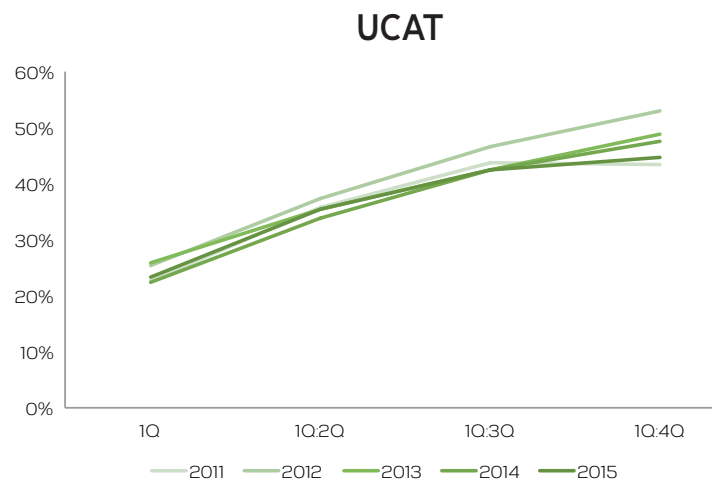
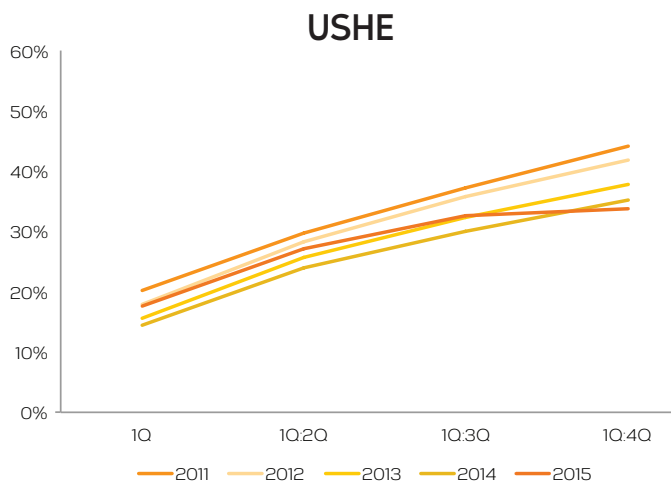
The observed difference in attainment between the agencies’ graduates may be a function of a couple of possible factors. One is the propensity for USHE graduates to continue their education with USHE. Approximately 60 percent of the graduates analyzed continued their education within one year of graduation and may therefore not be present in the labor market. Another factor for which there is supporting evidence

EMPLOYMENT ATTAINMENT BY QUARTER



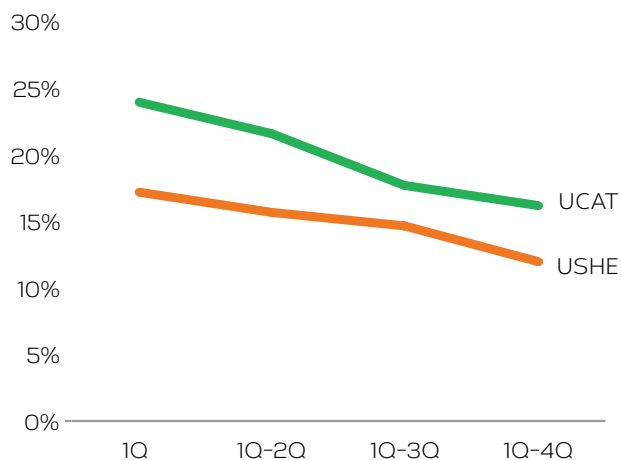
provided in this report is the difference in age across USHE and UCAT. The average age of students for UCAT was significantly higher than for USHE. This means UCAT students may have an advantage in the labor market because they are older and possibly have greater labor market experience. Lastly, individuals could migrate outside of the bounds of the state’s UI system.

The employment attainment by quarter across years has remained static from 2011 to 2015. This implies that no seasonal or time-related variables have systematically impacted the general ability for graduates to find employment. Effectively, the experience gaining employment was similar for a graduate in 2011 as it was for a graduate in 2015. These years would be considered well within the “boom” years post-recession, so the differences observed were a factor of variations in the amount of expansion in the general economic environment.



EMPLOYMENT RETENTION. Retention is measured as an individual having UI records throughout a given period. For example, for the span from first quarter to third quarter, an individual must have UI records in the first, second and third quarters post-graduation.

EMPLOYMENT RETENTION BY QUARTER

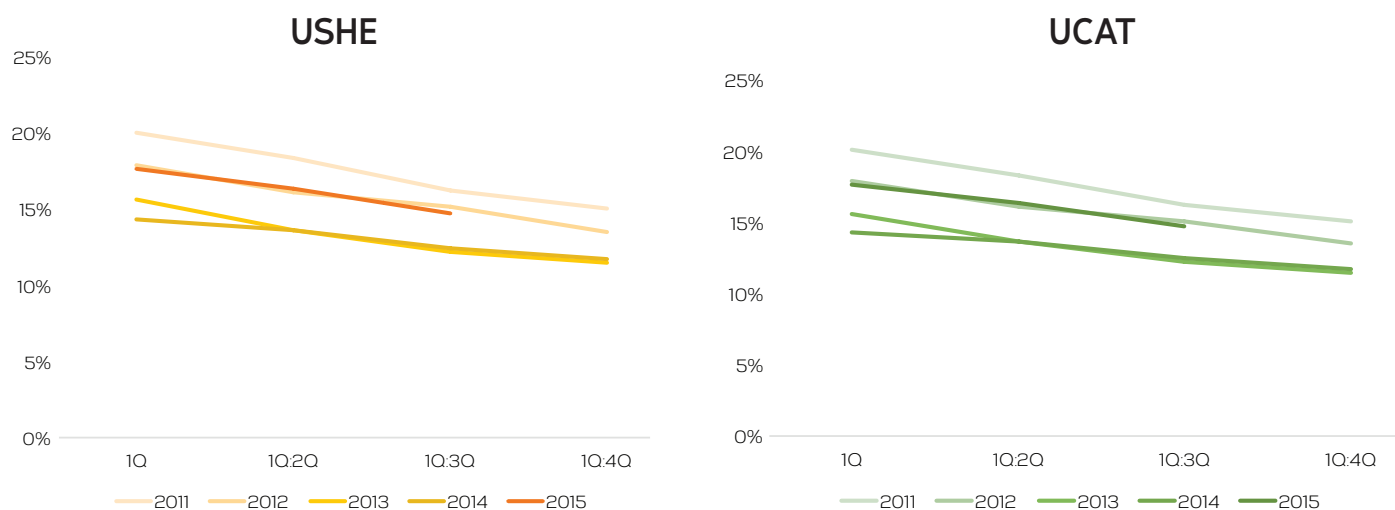


The highest rate of retention occurs in the first quarter post-graduation; this is logical because as time passes after gaining employment the potential for retention

declines. Ultimately, the aforementioned fact yields a negative correlation with time. The range for employment retention is 12 percent to 17.1 percent for USHE, and 16.1 percent to 23.9 percent for UCAT. The data details a higher retention rate on average for UCAT compared to USHE. A similar logic, possibly, applies to retention as attainment: the age difference across agencies could potentially affect the performance of employment retention, with younger individuals having greater labor market mobility compared to older, more established employees.

Reviewing the behavior of retention across years and agencies, a pattern emerges. The behavior across time is similar — negatively correlated with time and relatively equal from 2011 to 2015. As the economy has continued to expand post-recession, the labor market has tightened, causing retention to decrease in recent years. The tightening of a labor market could imply an increase in labor mobility for employees and, therefore, less retention of employment in Utah.

AS THE ECONOMY HAS CONTINUED TO EXPAND POST-RECESSION, THE LABOR MARKET HAS TIGHTENED.



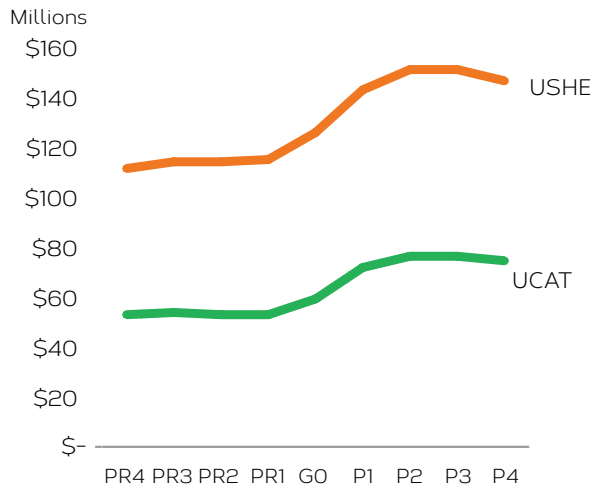
NON-TRADITIONAL (WAGE EFFECT). Non-traditional students are students who had at least one quarter of employment during the four quarters pre-graduation and or during the quarter of graduation. These individuals are unique for the purpose of this analysis because they had pre-graduation wages that can be compared to their post-graduation wages, unlike the new entrants with no pre-graduation wages to compare. This comparison provides an ideal subject for the effect of education on wages.

Much like the share of new entrants, the share of non-traditional students across the USHE and UCAT is not equal. The share of non-traditional students was 80.4 percent for USHE compared with 75.2 percent for UCAT. The 5-percent difference in the share between USHE and UCAT could potentially be due to the program length differences between USHE and UCAT. The vast majority of programs offered by UCAT are less than two years in length; consequently, more USHE students may need to work while in school because their programs take longer to complete. The agencies will be compared in relative terms, normalizing the effects of comparing dissimilar populations.

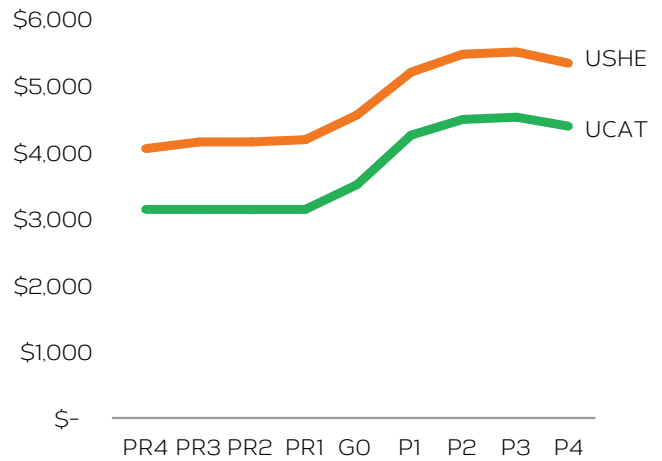
NOMINAL AND AVERAGE WAGE BEHAVIOR. The nominal wage behavior provides initial evidence to the effect of education on wages. The evidence is directional and is not appropriate for comparison across the agencies; USHE is higher in nominal terms because they have more graduates. The quarters are labeled in the following manner: four quarters prior to graduation (PR4-PR1), quarter of graduation (G0), and the four quarters post-graduation (P1-P4). The general trend for UCAT and USHE graduates is for nominal wages to increase post-graduation. The number of individuals under the non-traditional groups remains consistent; therefore, the average wage of these individuals must be increasing as the nominal wages expand. The average wage behavior graph represents the average wage of non-traditional graduates across quarters and agencies, and it corroborates the conclusion extracted from the nominal wage behavior. It is the case that average wages also increase post-graduation.

USHE graduates start at a higher average quarterly wage pre-graduation than do UCAT graduates, and their average wages increase from \$4,211 to \$5,366 per quarter. UCAT graduates experience a significant rise in wages,

NOMINAL WAGE BEHAVIOR ACROSS QUARTER



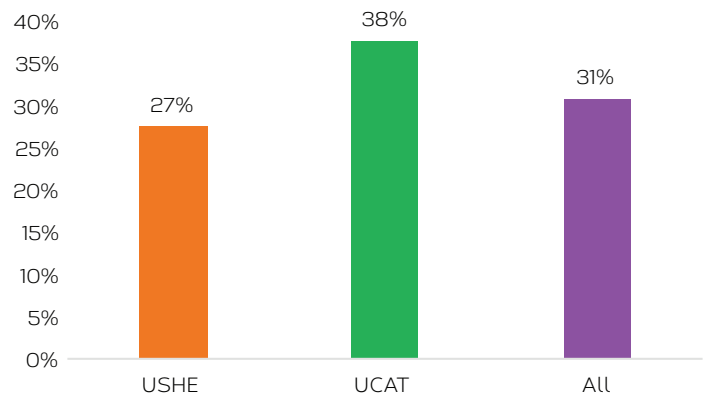
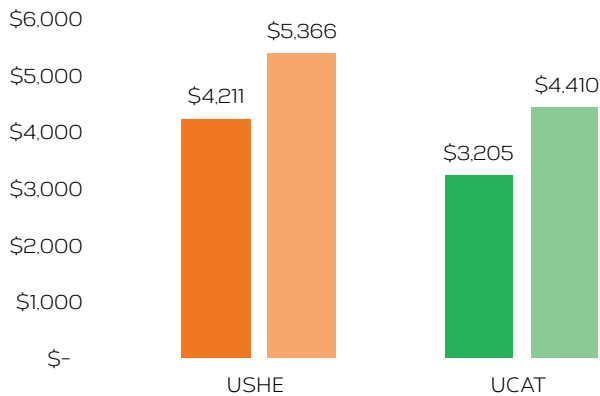
AVERAGE WAGE BEHAVIOR ACROSS QUARTERS



on average, increasing from \$3,205 to \$4,410. The difference in wages across USHE and UCAT graduates is far beyond the scope of this report; however, a possible explanation, which is evidenced in this report, is the difference in the UI match across agencies. If the UI data-match behavior is consistent across the new entrant group and the non-traditional graduates, then it is possible that fewer UCAT graduates decide

to work while in school than do USHE graduates due to the shorter UCAT program lengths. The answer to this query is highly complex and requires additional investigation.

The more relevant metric is average growth rate by agency, or the average growth of wages correlated with education gained by each graduate. Graduates of USHE



NOMINAL AND AVERAGE WAGES INCREASE POST GRADUATION.

experienced a 27-percent increase in quarterly wages on average compared to their pre-graduation quarterly wages. UCAT graduates experienced a 38-percent increase in wages during the same period. The average quarterly growth across the agencies was 31 percent. UCAT graduates started at lower average quarterly wages and experienced higher wage growth, whereas USHE graduates possessed higher average wages prior to graduation and experienced less growth after graduation. Possible reasons for differences in growth rate include:

- USHE graduates start at higher nominal wages prior to graduation, and it is more difficult to have explosive growth of income at higher levels of current income due to the higher levels of competition as income rises
- UCAT graduates are older and therefore possibly more experienced
- USHE and UCAT offer different levels of education, with USHE offering associate degrees
 - Professional occupations associated with degree paths that include associate degrees experience more gradual wage growth rates in the outset, as opposed to occupations associated with technical awards, which experience rapid growth earlier in the career path
- UCAT graduates experience higher rates of job placement and post-graduation employment
- A larger proportion of UCAT graduates are specialized, whereas a large portion of USHE completers graduate from the general education CTE program

The critical point of the wage behavior post-graduation, applying to USHE and UCAT similarly, is the fact that education on average increases quarterly wages by 31 percent on average in the first four quarter post-graduation

MULTIPLE AWARD HOLDERS (MARGINAL EFFECT).

Expanding on the effect of education on wages, this section analyzes the marginal effect or the outcome as education is increased beyond one certificate. Within the group of individuals who graduated from USHE and UCAT in the time window at hand, 5,214 received more than one award. Out of these, 760 received two or more awards on a singular graduation date. These are considered a type of graduates and are able to be compared to the single-degree-holder population as they graduated at the same time in the same fashion as the single-degree holders. The remaining 4,454 individuals received two or more awards, with separate graduation dates. From the subgroup of 4,454 graduates, 1,932 graduated on multiple occasions within a one-year period. The remaining 2,522, graduated outside a one-year period. The multiple-degree-holder sub-groups were subdivided by two main considerations: number of awards and graduation dates. A summary of the groups is provided below.

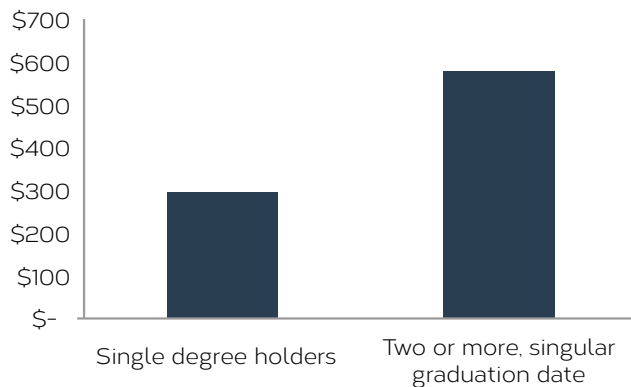
	Awards	
Days Between Graduations	2	+3
0	AA	AB
1 to 365	BA	BB
366 +	CA	CB

Group	Compared to...
AA & AB	Single Degree Holders
BA	Within Group
BB	Within Group
CA	Within Group
CB	Within Group

The expectation is for wages to be positively correlated with increased number of awards, and the empirical evidence generated by this study support that conclusion. The average per-person increase,

per quarter (AQP) was \$294, compared to their pre-graduation income. Individuals with two or more degrees and having the same graduation date (group AA & AB) saw wages increase by \$578 for the same period, on average. The modality of this increase in the AQP is beyond the scope of this report; however, a possible rationale may be the concept of “stackable credentials.” More education (in the form of awards, in this example) can increase a given graduate’s competitiveness because he or she has more skills to offer in the labor market, and employers pay higher wages for more productive employees.

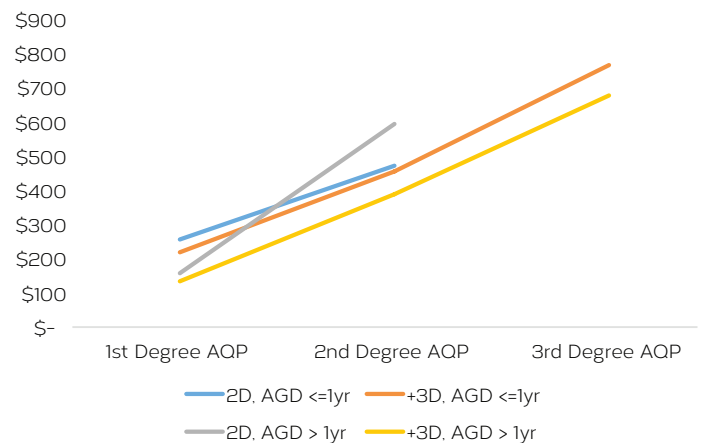
NUMBER OF DEGREES



The behavior is also observed when the analysis is expanded to individuals with two or more degrees and different graduation dates; these are the individuals in groups BA, BB, CA and CB. Those individuals with three or more degrees awarded within a year (BB), had the highest AQP at \$764. The data provides evidence for a marginal effect of education extending beyond one degree and has no diminishing returns in the range of degrees analyzed. These results are provided in aggregate; therefore, they should be interpreted as averages across USHE and UCAT. In addition, it is important to note that this data may be biased, as the individuals who would pursue additional awards are, arguably, more driven compared to single-degree holders and should be considered a specific subgroup within the general CTE student body. This

could potentially bias the wage data and the observed performance of the AQP as the traits linked to such ambition can affect employment and wage outcomes. Regardless, the relationship is present, and the bias would apply predominantly to the comparison between single degree holders and those in groups AA and AB.

AQP BY NUMBER OF DEGREES AND GRADUATION DATE



The data presented strengthens the body of knowledge regarding the positive impact of education on wages and validates the assumption that this phenomenon plays out in the CTE program completers. The decision to undertake more education is important; however, the decision of specialization is equally as important.

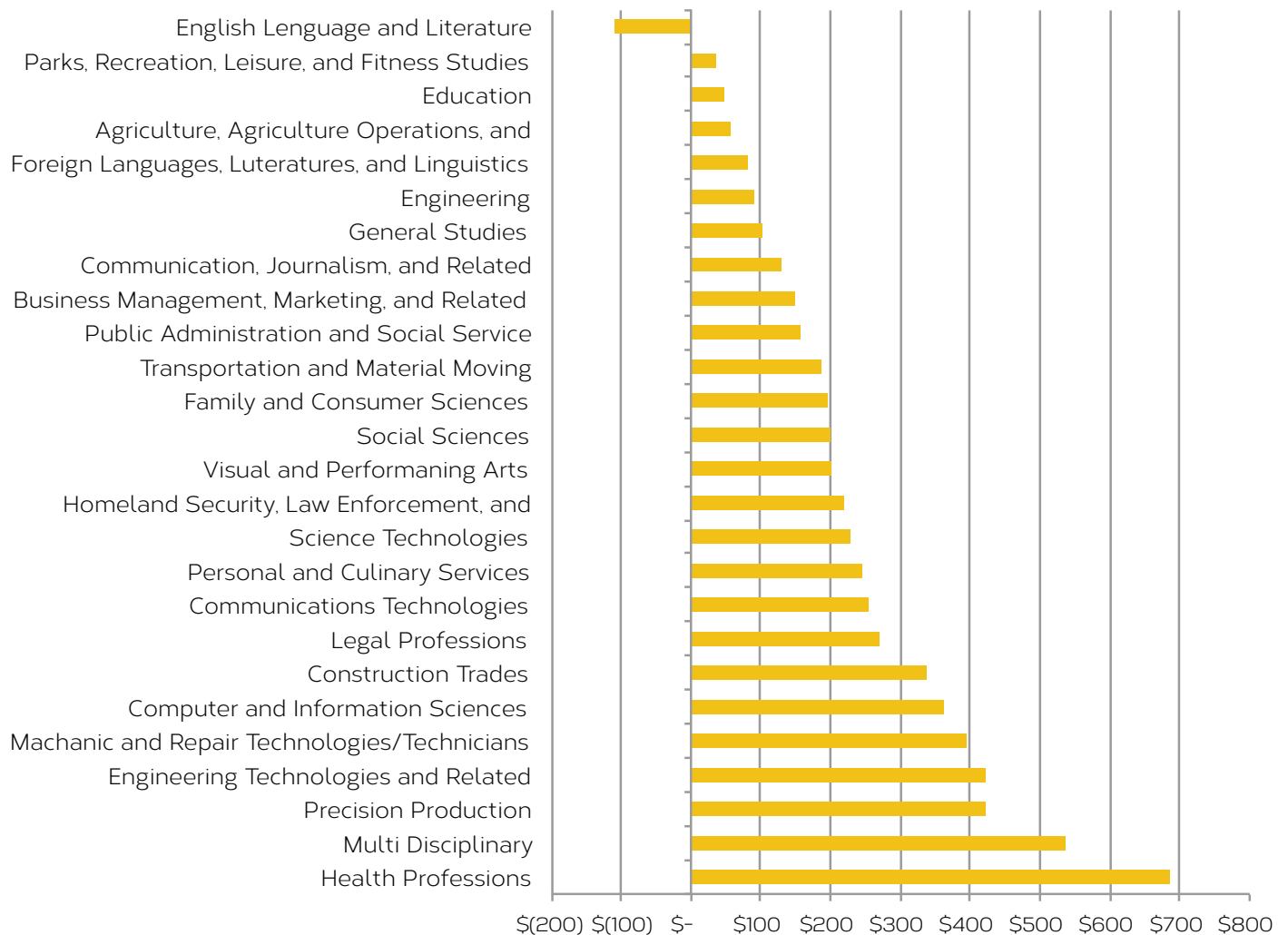
WAGES BY CIP FAMILIES

(SPECIALIZATION EFFECT). As noted, undertaking additional education positively affects potential future wages. The choice of specialization is equally relevant to the analysis of the effect of education on future wages. Certain industries such as health-related occupations are more strongly professionalized than the average occupational field. More professional occupations trend toward stronger occupational growth and wages. In addition, labor demand affects specialization in a disparate fashion. The outcomes of professionalization and labor demand have profound structural effects on the wage outcomes associated with

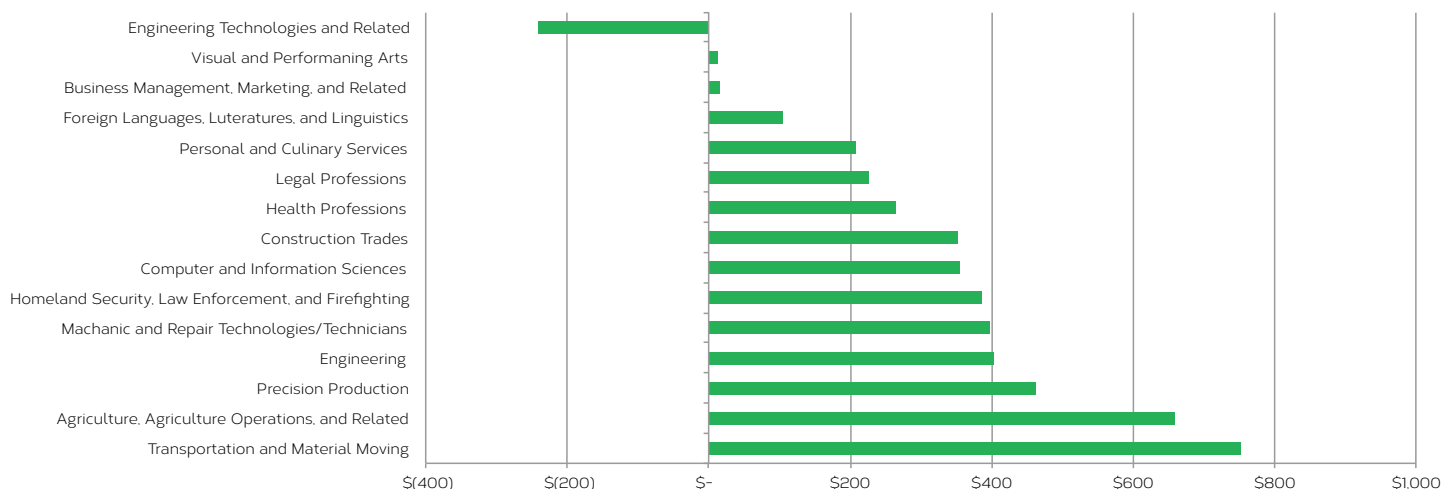
a given specialization. Therefore, an assumption given these considerations would be to expect a range of wage outcomes associated with CIP families, the categorical groupings into which every CTE program falls.

The CIP families provide a useful way to denote specialization by looking at the families in which the awarded certificate are located (e.g., nursing falls under the health professions CIP family). Graduates from USHE and UCAT were matched with their respective wage records and classified under CIP families to yield a more simple set of results. The average quarterly wage was compared pre and post-graduation, and the average increase per quarter per person (AQP) was calculated. A large AQP implies a high increase pre- versus post-graduation for a given CIP family. The results are given below.

USHE AQP BY CIP FAMILY



UCAT AQP BY CIP FAMILY



The AQP by CIP family data are arranged in a descending fashion and represent the CIP families under which the CTE agencies granted awards. Interpreting these results reveals, for instance, a \$350 per-quarter wage increase post-graduation for an individual who graduated from USHE with a certificate within the construction trades CIP family. The health (USHE) and transportation professions (UCAT) have the highest AQP, and the English language (USHE) and engineering technologies (UCAT) having the lowest AQP amongst the CIP families. (The English language program provides individuals with the skills to reach specific occupational goals and is not an occupational path itself). The AQP for the engineering students may be affected by two employment-related factors: 1) these students are often employed by employers who are not covered by the UI system (for example, Hill Air Force Base), and 2) a number of these students specialize in petroleum- or extraction-related fields that may be affected by the current decline of the oil industry in the Uintah Basin.

The location of CIP families in relation to AQP is dissimilar across the agencies. This is potentially an outcome of the geographic locations of the campuses and the local labor market conditions. In addition, the agencies do not offer exactly equal curricula, resulting in dissimilar CIP family sets. Finally, each CIP family is composed of several CIPs, and represents a tremendous diversity of professions and occupations within the family.

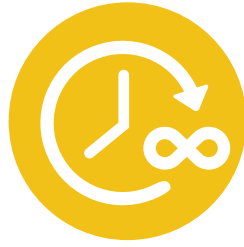
The diversity of opportunity introduces considerable variation to the analysis. It is important to note that these are average (general) behaviors of wages grouped by CIP families and are not exactly indicative of the singular experience of a given student. For instance, an individual may graduate with a precision production certificate from UCAT but enter a career in construction. He or she would be placed in the precision production CIP family based on educational information, but his or her wages would be derived from the construction industry.

Given these caveats, and speaking in general terms, the data validates the original assumption regarding specialization and wage outcomes. Specialization appears to affect ultimate wage outcomes, in this case measured in AQP. A more detailed account of the effect of specialization on wages warrants an additional report dedicated specifically to this topic and is beyond the scope of the current report. For the purpose of this report, it suffices to

summarize the effects of specialization on wages as existent and related to specific specializations, with these being affected by labor market demand, supply and professionalization.



THE PAST, PRESENT AND FUTURE



THE PAST, PRESENT AND FUTURE

This section the report analyses how labor demands, labor supply and wages in the past compare against present data and also looks ahead to what's projected in the future. In doing so, it migrates from primarily a positivist perspective to normative. When referring to the past, an analysis of average and starting wages is provided. The present relates to current labor demand and supply. Lastly, the future looks at 10-year projections of occupational growth.

PAST – AVERAGE WAGE AND STARTING WAGES

The Occupational Employment Statistics (OES) is a semi-annual survey of approximately 200,000 non-farm businesses conducted by the Bureau of Labor Statistics (BLS).³¹ The survey is conducted to capture specific valuable labor market variables critical macroeconomic analyses, including employment, wages, occupations, and a host of ancillary labor-market variables. The most recently published survey for the State of Utah was conducted in 2015 and provides insight into the occupation families with the highest and lowest starting and median wages. BLS categorizes occupations under the “Standard Occupational Classification” (SOC) system. The SOC system provides a hierarchy for related occupations to be grouped under “families.” For example, an individual who is employed as a web developer belongs to both the web development occupation and the computer and mathematical occupations SOC family. Below is the 2015 SOC family starting and median wages for the State of Utah. This data is subdivided by geographic area (not all counties are included in these BLS designated areas) in the appendix.

SOC Family Title	Starting	Median
Total all occupations	\$ 9.80	\$ 16.34
Management Occupations	\$ 19.95	\$ 38.33
Business and Financial Operations Occupations	\$ 17.23	\$ 27.63
Computer and Mathematical Occupations	\$ 18.96	\$ 34.02
Architecture and Engineering Occupations	\$ 21.36	\$ 33.74
Life, Physical, and Social Science Occupations	\$ 14.99	\$ 25.52
Community and Social Services Occupations	\$ 11.11	\$ 17.87
Legal Occupations	\$ 17.10	\$ 29.79

SOC Family Title	Starting	Median
Education, Training, and Library Occupations	\$ 11.05	\$ 20.49
Arts, Design, Entertainment, Sports, and Media Occupations	\$ 10.06	\$ 18.35
Healthcare Practitioners and Technical Occupations	\$ 16.44	\$ 27.72
Healthcare Support Occupations	\$ 9.98	\$ 12.64
Protective Service Occupations	\$ 9.83	\$ 17.10
Food Preparation and Serving-Related Occupations	\$ 8.17	\$ 9.24
Building and Grounds Cleaning and Maintenance Occupations	\$ 8.17	\$ 10.26
Personal Care and Service Occupations	\$ 8.17	\$ 10.38
Sales and Related Occupations	\$ 8.41	\$ 12.30
Office and Administrative Support Occupations	\$ 10.28	\$ 14.49
Farming, Fishing, and Forestry Occupations	\$ 9.08	\$ 11.73
Construction and Extraction Occupations	\$ 12.84	\$ 18.39
Installation, Maintenance, and Repair Occupations	\$ 12.94	\$ 20.67
Production Occupations	\$ 10.48	\$ 15.23
Transportation and Material Moving Occupations	\$ 9.57	\$ 15.25

The occupation with the highest starting wage in Utah's 2015 OES report was within the architecture and engineering occupations SOC family. Conversely, the occupation with the lowest starting wage was a three-way tie between food preparation, maintenance, and personal care and service occupations. The highest median wage was under the management occupations, and the lowest was in the food preparation occupation family. The apparent pattern in the 2015 OES results for entry and median wages is related to the nature and responsibilities intrinsic to the occupations. Those requiring a higher degree of specialization, and therefore required education, correlate to the occupations with the highest starting and median wages.

Due to the connection between education (specialization), occupations and ultimately wages, the analysis of average and median wages was extended to provide insight into the educational decisions associated with USHE and UCAT graduates. In order to accomplish this task, the total group of graduates was truncated to include only individuals who graduated in 2015, since 2015 is the most recent OES data available. An additional complexity is present in the data on awards by CIP code provided by the CTE agencies. One CIP codes can map to several SOC codes, which presents a problem when deciding under which SOC family a graduate will be placed. The solution is to utilize economic theory, specifically the concept of utility maximization, to assign individuals to SOC codes under the assumption that a graduate would self-select to the occupation with the highest wages given their level of experience. The outcome of this method narrows several possible opportunities for a given graduate to a single occupation.

Applying the aforementioned technique allows for the calculation of the average entry and median wage for USHE and UCAT completers. A caveat associated with the data is that this is a stylized version of the entry and median wages data from the OES dataset. In addition, the entry and median wages are averages weighted by the underlying geographic area.

USHE STYLIZED ENTRY AND MEDIAN WAGE

SOCF	Title	Count	Entry	Median
11	Management Occupations	384	\$ 27.71	\$ 42.44
13	Business and Financial Operations Occupations	43	\$ 27.04	\$ 34.26
15	Computer and Mathematical Occupations	270	\$ 27.18	\$ 37.85
17	Architecture and Engineering Occupations	203	\$ 22.58	\$ 31.20
21	Community and Social Services Occupations	17	\$ 20.24	\$ 27.43
23	Legal Occupations	38	\$ 18.75	\$ 21.58
25	Education, Training, and Library Occupations	55	\$ 8.31	\$ 9.33
27	Arts, Design, Entertainment, Sports, and Media Occupations	153	\$ 16.99	\$ 23.87
29	Healthcare Practitioners and Technical Occupations	1110	\$ 21.32	\$ 26.60
31	Healthcare Support Occupations	361	\$ 11.70	\$ 13.96
33	Protective Service Occupations	219	\$ 20.73	\$ 25.69
35	Food Preparation and Serving-Related Occupations	80	\$ 9.03	\$ 11.85
39	Personal Care and Service Occupations	49	\$ 11.51	\$ 15.48
41	Sales and Related Occupations	2	\$ 13.55	\$ 24.60
43	Office and Administrative Support Occupations	52	\$ 14.80	\$ 19.14
47	Construction and Extraction Occupations	7	\$ 16.80	\$ 23.76
49	Installation, Maintenance, and Repair Occupations	158	\$ 14.44	\$ 21.46
51	Production Occupations	64	\$ 13.78	\$ 17.54
53	Transportation and Material Moving Occupations	14	\$ 9.63	\$ 13.89
		3279	\$ 20.06	\$ 26.71

UCAT STYLIZED ENTRY AND MEDIAN WAGE

SOCF	Title	Count	Entry	Median
13	Business and Financial Operations Occupations	71	\$ 16.25	\$ 25.33
15	Computer and Mathematical Occupations	80	\$ 25.07	\$ 34.40
17	Architecture and Engineering Occupations	97	\$ 24.35	\$ 32.68
25	Education, Training, and Library Occupations	26	\$ 9.02	\$ 22.00

SOCF	Title	Count	Entry	Median
27	Arts, Design, Entertainment, Sports, and Media Occupations	37	\$ 14.05	\$ 19.44
29	Healthcare Practitioners and Technical Occupations	750	\$ 13.53	\$ 16.28
31	Healthcare Support Occupations	1682	\$ 10.28	\$ 11.64
33	Protective Service Occupations	46	\$ 12.80	\$ 16.31
35	Food Preparation and Serving-Related Occupations	65	\$ 9.07	\$ 11.37
39	Personal Care and Service Occupations	373	\$ 8.92	\$ 12.11
43	Office and Administrative Support Occupations	147	\$ 12.09	\$ 15.84
47	Construction and Extraction Occupations	172	\$ 14.69	\$ 21.57
49	Installation, Maintenance, and Repair Occupations	221	\$ 16.01	\$ 21.69
51	Production Occupations	286	\$ 14.18	\$ 19.77
53	Transportation and Material Moving Occupations	48	\$ 8.91	\$ 13.75
		4101	\$ 12.33	\$ 15.59

The average starting wage for 2015 graduates was \$20.06 for USHE and \$12.33 for UCAT. The median wage associated with the probable initial occupation decisions was \$26.71 for USHE and \$15.59 for UCAT. These figures are consistent with the realized wage data presented previously; graduates from USHE tend to have higher initial wages compared to UCAT. The reasons are further expanded in this analysis by providing occupational context.

PRESENT – CTE PROGRAMS AND LABOR DEMAND. A key interplay between education and the labor market is the extent to which the programs and the volume of graduates produced by the CTE agencies meet labor market demand.

Real time labor market demand is difficult to accurately quantify; however, the analysis at hand leverages data from the conference board Help Wanted OnLine (HWOL)³² to accomplish this task. HWOL employs web scrapers to capture wanted ads online, removing duplicates, to provide a measurement of the unique wanted ads in a given geographic location and time period. These openings are categorized under the SOC family scheme and deflated to adjust for the ratio of individuals in the work force with the appropriate level of education.

Labor supply, an even more difficult variable to measure, is quantified from the graduate data provided by the CTE agencies in conjunction with a novel methodology for the CIP-to-SOC-code pairing. As occupational employment is the future decision of completers, the analysis employs a possible outcome scheme to produce the measure labor supply under a given SOC family for a given year. Effectively, if a student graduates with a CIP code that maps to three separate SOC codes, then all possibilities are aggregated, as these are SOC codes that can potentially be fulfilled. As the total possible output in a given year will be greater than the actual supply due to the methodology,

it is assumed that the total possible output ratio compared to the openings should exceed 100 percent if enough supply was being created to meet demand.

		Openings			Total Possible Output			Fulfillment		
SOCF	Title	2013	2014	2015	2013	2014	2015	2013	2014	2015
11	Management Occupations	5932	5940	5430	3972	4122	3947	66.95%	69.40%	72.69%
13	Business and Financial Operations Occupations	4097	4174	3868	1177	1317	1110	28.73%	31.55%	28.70%
15	Computer and Mathematical Occupations	7204	7153	6959	1529	1535	2441	21.22%	21.46%	35.08%
17	Architecture and Engineering Occupations	2305	2107	2066	805	709	741	34.93%	33.66%	35.87%
19	Life, Physical, and Social Science Occupations	931	879	924	82	194	132	8.80%	22.07%	14.28%
21	Community and Social Services Occupations	1531	1765	1704	133	189	210	8.69%	10.71%	12.32%
23	Legal Occupations	343	363	326	156	207	117	45.53%	56.99%	35.93%
25	Education, Training, and Library Occupations	1810	1979	1846	6664	7035	6466	368.26%	355.49%	350.32%
27	Arts, Design, Entertainment, Sports, and Media Occupations	2327	2330	2000	709	1035	712	30.46%	44.42%	35.60%
29	Healthcare Practitioners and Technical Occupations	5572	6716	6952	2238	2272	2162	40.16%	33.83%	31.10%
31	Healthcare Support Occupations	3207	3193	3000	2469	2288	2193	76.99%	71.65%	73.10%
33	Protective Service Occupations	849	855	941	774	955	732	91.13%	111.75%	77.83%
35	Food Preparation and Serving-Related Occupations	4790	5232	5282	689	498	619	14.38%	9.52%	11.72%
37	Building and Grounds Cleaning and Maintenance Occupations	2552	2911	2749	43	31	49	1.69%	1.06%	1.78%
39	Personal Care and Service Occupations	2069	2009	1714	1587	1717	1416	76.70%	85.47%	82.62%
41	Sales and Related Occupations	12232	11437	10269	110	121	151	0.90%	1.06%	1.47%
43	Office and Administrative Support Occupations	15473	17298	15089	366	633	456	2.37%	3.66%	3.02%

		Openings			Total Possible Output			Fulfillment		
SOCF	Title	2013	2014	2015	2013	2014	2015	2013	2014	2015
45	Farming, Fishing, and Forestry Occupations	157	132	138	11	56	51	7.03%	42.39%	36.82%
47	Construction and Extraction Occupations	3513	3787	3945	815	537	555	23.20%	14.18%	14.07%
49	Installation, Maintenance, and Repair Occupations	4111	4454	4220	1348	1564	1185	32.79%	35.12%	28.08%
51	Production Occupations	3435	3941	3608	1717	1773	1645	49.98%	44.99%	45.59%
53	Transportation and Material Moving Occupations	6075	7130	7312	1707	1613	1351	28.10%	22.62%	18.48%

This data describes the total number of openings and the total possible output by SOC family for 2013–2015. Fulfillment is a ratio of the number of total possible output to openings; for example, SOC family 11 in 2015 had a total of 5,430 openings and 3,947 total possible output. The ratio, therefore, is 3,947/5,430, or 75.7 percent. This is to say, if all graduates from UCAT and USHE with a certificate in a CIP code which mapped to SOC code 11 opted to work in the “management occupations” field, then these graduates would have been able to meet slightly more than 75 percent of the labor demand for the management occupation family in 2015. The low, general level of fulfillment provides evidence to the fact that labor supplied by the UCAT and USHE agencies alone did not maintain pace with demand. In order to strengthen the assertion, the following facts are provided:

- Net Migration³³
 - Utah experience positive net migration from 2011 to 2015, accounting for an average of nearly 17 percent population growth
- Real Personal Income³⁴
 - The average annual growth rate for real personal income was 2.3 percent from 2011 to 2015 and was the sixth largest in the nation
- Jobs-to-Jobs Migration³⁵
 - From the 20 industries defined in the North American Industry Classification System, 14 had positive net migration between 2011 and 2015

These facts provide additional evidence to suggest that the labor supply from USHE and UCAT is short of the total labor demand. Due to the discrepancy between labor supply and demand, individuals from states beyond the State of Utah are being induced to relocate, and these individuals are migrating into the fastest growing industries as demonstrated by the Jobs-to-Jobs migration data. These individuals are induced to do so due to the availability of openings and the growing real personal income in the state. The growth of the personal income signals the tightening of the local labor market and encourages individuals from other states to relocate. All evidence shows a gradual tightening of Utah’s labor market between 2011 and 2015, with employers struggling to find employees, driving in migration, and pushing the wage level higher.

FUTURE – 10-YEAR PROJECTIONS AND GROWTH OF LABOR SUPPLY

The most accurate indicator of future occupational growth available at the current time is the 10-year projections of occupational growth published by Workforce Services. The 10-year projections of occupation are calculated by establishing an occupational base total and applying statistical forecasting modeling to the base volume to predict future total volume of employment.

2014 – 2024 State of Utah 10 Year Occupational Projections						
SOC	Title	Base	Projection	Nominal	Percent	AAG
11	Management Occupations	83979	106942	22963	27.34%	2.45%
13	Business and Financial Operations Occupations	70407	93312	22905	32.53%	2.86%
15	Computer and Mathematical Occupations	40959	59162	18203	44.44%	3.75%
17	Architecture and Engineering Occupations	25229	31437	6208	24.61%	2.22%
19	Life, Physical, and Social Science Occupations	10744	13577	2833	26.37%	2.37%
21	Community and Social Service Occupations	20684	26454	5770	27.90%	2.49%
23	Legal Occupations	9387	11115	1728	18.41%	1.70%
25	Education, Training, and Library Occupations	81237	102798	21561	26.54%	2.38%
27	Arts, Design, Entertainment, Sports, and Media Occupations	23588	29920	6332	26.84%	2.41%
29	Healthcare Practitioners and Technical Occupations	65083	86033	20950	32.19%	2.83%
31	Healthcare Support Occupations	33551	45299	11748	35.02%	3.05%
33	Protective Service Occupations	22398	27171	4773	21.31%	1.95%
35	Food Preparation and Serving Related Occupations	103431	136603	33172	32.07%	2.82%
37	Building and Grounds Cleaning and Maintenance Occupations	47234	59168	11934	25.27%	2.28%
39	Personal Care and Service Occupations	43967	58328	14361	32.66%	2.87%
41	Sales and Related Occupations	146194	179577	33383	22.83%	2.08%
43	Office and Administrative Support Occupations	234596	288676	54080	23.05%	2.10%
45	Farming, Fishing, and Forestry Occupations	3954	4634	680	17.20%	1.60%
47	Construction and Extraction Occupations	86082	114169	28087	32.63%	2.86%
49	Installation, Maintenance, and Repair Occupations	55872	70416	14544	26.03%	2.34%

2014 - 2024 State of Utah 10 Year Occupational Projections						
SOC	Title	Base	Projection	Nominal	Percent	AAG
51	Production Occupations	89028	108673	19645	22.07%	2.01%
53	Transportation and Material Moving Occupations	82670	104937	22267	26.93%	2.41%

This data provides insight to the annual average growth rate of a given occupation. For example, the occupation set to grow the most in the next 10 years is computer and mathematical occupations, with a growth rate of 3.8 percent. As the occupations grow, the expectation is labor supply grows at this rate in order to maintain an equilibrium of supply and demand. In the case of the computer and mathematical occupations, the growth of supply would have to be above 3.8 percent for supply and demand to equalize. The growth rate of supply is constructed from calculating the total probable output for USHE and UCAT, and then calculating the average annual growth rates.

		Total Probable Output					% Growth of Probable Output				
SOCF	Title	2011	2012	2013	2014	2015	2012	2013	2014	2015	AAG
11	Management Occupations	4610	3942	3972	4122	3947	-14.49%	0.76%	3.78%	-4.25%	-3.81%
13	Business and Financial Operations Occupations	1374	1319	1177	1317	1110	-4.00%	-10.77%	11.89%	-15.72%	-5.19%
15	Computer and Mathematical Occupations	1090	1433	1529	1535	2441	31.47%	6.70%	0.39%	59.02%	22.33%
17	Architecture and Engineering Occupations	1057	885	805	709	741	-16.27%	-9.04%	-11.93%	4.51%	-8.50%
19	Life, Physical, and Social Science Occupations	47	50	82	194	132	6.38%	64%	136.59%	-31.96%	29.46%
21	Community and Social Service Occupations	280	175	133	189	210	-37.50%	-24%	42.11%	11.11%	-6.94%
23	Legal Occupations	147	198	156	207	117	34.69%	-21.21%	32.69%	-43.48%	-5.55%
25	Education, Training, and Library Occupations	6021	6709	6664	7035	6466	11.43%	-0.67%	5.57%	-8.09%	1.80%
27	Arts, Design, Entertainment, Sports, and Media Occupations	562	618	709	1035	712	9.96%	14.72%	45.98%	-31.21%	6.09%

		Total Probable Output					% Growth of Probable Output				
SOCF	Title	2011	2012	2013	2014	2015	2012	2013	2014	2015	AAG
29	Healthcare Practitioners and Technical Occupations	2586	2287	2238	2272	2162	-11.56%	-2.14%	1.52%	-4.84%	-4.38%
31	Healthcare Support Occupations	2827	2740	2469	2288	2193	-3.08%	-9.89%	-7.33%	-4.15%	-6.15%
33	Protective Service Occupations	779	796	774	955	732	2.18%	-2.76%	23.39%	-23.35%	-1.54%
35	Food Preparation and Serving Related Occupations	502	490	689	498	619	-2.39%	40.61%	-27.72%	24.30%	5.38%
37	Building and Grounds Cleaning and Maintenance Occupations	34	36	43	31	49	5.88%	19.44%	-27.91%	58.06%	9.57%
39	Personal Care and Service Occupations	1367	1391	1587	1717	1416	1.76%	14.09%	8.19%	-17.53%	0.88%
41	Sales and Related Occupations	104	122	110	121	151	17.31%	-9.84%	10%	24.79%	9.77%
43	Office and Administrative Support Occupations	389	353	366	633	456	-9.25%	3.68%	72.95%	-27.96%	4.05%
45	Farming, Fishing, and Forestry Occupations	3	12	11	56	51	300%	-8.33%	409.09%	-8.93%	103.05%
47	Construction and Extraction Occupations	881	810	815	537	555	-8.06%	0.62%	-34.11%	3.35%	-10.91%
49	Installation, Maintenance, and Repair Occupations	1161	1280	1348	1564	1185	10.25%	5.31%	16.02%	-24.23%	0.51%
51	Production Occupations	1352	1343	1717	1773	1645	-0.67%	27.85%	3.26%	-7.22%	5.03%
53	Transportation and Material Moving Occupations	1870	2056	1707	1613	1351	9.95%	-16.97%	-5.51%	-16.24%	-7.81%
TOTAL											-0.52%

On average, the growth of the probable output has decreased on an annual basis rate of half a percent. Despite this fact, several occupations have immense average annual growth rates from 2011 to 2015, with computer and mathematical occupations and life, physical and social science occupations being extreme examples.

SOC	Title	Demand	Supply	Status
11	Management Occupations	2.45%	-3.81%	
13	Business and Financial Operations Occupations	2.86%	-5.19%	
15	Computer and Mathematical Occupations	3.75%	22.33%	
17	Architecture and Engineering Occupations	2.22%	-8.50%	
19	Life, Physical, and Social Science Occupations	2.37%	29.46%	
21	Community and Social Service Occupations	2.49%	-6.94%	
23	Legal Occupations	1.70%	-5.55%	
25	Education, Training, and Library Occupations	2.38%	1.80%	
27	Arts, Design, Entertainment, Sports, and Media Occupations	2.41%	6.09%	
29	Healthcare Practitioners and Technical Occupations	2.83%	-4.38%	
31	Healthcare Support Occupations	3.05%	-6.15%	
33	Protective Service Occupations	1.95%	-1.54%	
35	Food Preparation and Serving Related Occupations	2.82%	5.38%	
37	Building and Grounds Cleaning and Maintenance Occupations	2.28%	9.57%	
39	Personal Care and Service Occupations	2.87%	0.88%	
41	Sales and Related Occupations	2.08%	9.77%	
43	Office and Administrative Support Occupations	2.10%	4.05%	
45	Farming, Fishing, and Forestry Occupations	1.60%	103.05%	
47	Construction and Extraction Occupations	2.86%	-10.91%	
49	Installation, Maintenance, and Repair Occupations	2.34%	0.51%	
51	Production Occupations	2.01%	5.03%	
53	Transportation and Material Moving Occupations	2.41%	-7.81%	

Occupations with supply growth rates below demand are denoted as red in the “status” column; conversely, green denotes in-demand growth rates. Thirteen of the 22 occupations, or approximately 60 percent, may not meet future demand from UCAT and USHE alone. The remainder will exceed supply, which may be filled from sources outside the current flow of CTE graduates.

The results from this analysis are congruent with the facts presented previously regarding migration and personal income growth. If it is the case that the supply associated with these occupations is not fulfilled, there potentially could be continued growth (perhaps even acceleration) of migration and personal income. Prior to concluding the argument at hand, it is important to note a few caveats. The methods employed in the creation of the growth rates are different; the demand growth rates were constructed through forecasting models, whereas the supply is a simple average annual growth rate from five years of educational data. This is not to say the comparisons of supply and demand are invalid but rather to provide context for understanding the findings. Furthermore, the method employed to calculate the probable output is probabilistic and not exact. An individual must make an occupational decision at a given time period, and they may make a decision which is not congruent with their certificate (e.g., a person with a cosmetology certificate may decide to be a sales manager). Therefore, the results presented are a stylized set of conclusions underscored by individual choices. Ultimately, the analysis is designed to provide an approximation, and is intended for the purpose of detecting trends rather than empirically calculating future supply and demand growth rates. Regardless of these caveats, the results provide evidence to the fact that supply is expected to decrease and demand is expected to continue to grow. The outcome would be an ever-increasing tight labor market with increases in migration and wages.



SUMMARY

The report at hand is an outcome of House Bill 337 and attempts to resolve the question of CTE's effectiveness brought forth by this bill. The answers provided are an outcome of collaboration with the CTE agencies and their institutions and are an example of interagency partnerships. Career and technical education is, as previously described, a critical aspect of the general education mechanism for the State of Utah. CTE is essential for the purpose of channeling individuals into higher-paying occupations and providing for the personal fulfillment of educational goals.

An important finding of the report is that CTE agencies are separate and fulfill dissimilar purposes. The age, population coverage, career pathways, programs and program levels, and number of awards by CIP family data provide strong evidence to the fact. Furthermore, the capacity information, provided by the campuses provides insight to the differences within each agency. This makes comparing across agencies difficult and fraught with caveats. Regardless, these facts do not detract from comparing in relative terms and through statistically sound methods.

The first of these differences is costs. The data details a higher direct and full cost for USHE, and a higher ratio of direct to full cost for UCAT. Secondly, state appropriations for USBE, USHE and UCAT have grown in the last five years; similarly, tuition has grown for USHE and for UCAT in the last five years. There are differences, however, in the ratio of revenues. UCAT depends more upon appropriations than USHE, which depends more upon tuition revenue. The three major CTE agencies have differences in their respective direct and full costs, with USBE having substantially different full costs due to its size.

Regarding employment outcomes, job acquisition and holding is greater for UCAT graduates compared to USHE graduates. The reasons for this are numerous and described previously. Graduates of USHE experience higher nominal and average wages post-graduation, whereas UCAT graduates experience higher growth across graduation (growth for USHE graduates is possibly more difficult due to preexisting higher wages). Evidence was presented for the positive effect of additional education and the effect associated with specialization decisions. In general terms, CTE education has a positive effect on wage outcomes.

Answers to the extent that CTE is meeting the labor demands of Utah in the past, present and future were presented. Regarding the past, USHE graduates experienced higher starting and median wages compared to UCAT. There is evidence that USHE and UCAT were unable to provide complete coverage in all counties, specifically in the provision of programs, which are growing quickly. Furthermore, there appears to be evidence

to a shortage of supply, given today's labor demand. Lastly, the growth rate of supply is below that of demand, implying future shortages of supply from CTE agencies alone that could be fulfilled by increasing graduate volumes or importing labor.

Given the fact that CTE is evidenced to be beneficial in wage terms and that a current shortage of supply is projected to continue into the future, it is recommended that future decisions regarding the outlay of appropriations have these facts in mind to address and avoid future potential shortages in supply.



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GEOGRAPHIC LOCATION OF CAMPUSES OF CTE AGENCIES

AGENCY	CAMPUS	ADDRESS
UCAT	BRIDGERLAND ATC	1301 North 600 West, Logan, UT 84321
UCAT	DAVIS ATC	550 East 300 South, Kaysville, UT 84037
UCAT	DIXIE ATC	1506 S Silicon Way, St. George, UT 84770
UCAT	OGDEN-WEBER ATC	200 North Washington Blvd, Ogden, UT 84404
UCAT	SOUTHWEST ATC	510 West 800 South, Cedar City, UT 84720
UCAT	TOOELE ATC	88 South Tooele Blvd., Tooele, UT 84074
UCAT	UINTAH BASIN ATC	1100 E Lagoon St., Roosevelt, UT 84066
UCAT	MOUNTAINLAND ATC	2301 Ashton Blvd, Lehi, UT 84043
USHE	DIXIE STATE UNIVERSITY	225 S 700 E, St George, UT 84770
USHE	UTAH STATE UNIVERSITY	1600 Old Main Hill, Logan, UT 84322
USHE	SOUTHERN UTAH UNIVERSITY	351 W University Blvd, Cedar City, UT 84720
USHE	SNOW COLLEGE	150 College Ave E, Ephraim, UT 84627
USHE	WEBER STATE UNIVERSITY	3848 Harrison Blvd, Ogden, UT 84408
USHE	UTAH VALLEY UNIVERSITY	800 W University Pkwy, Orem, UT 84058
USHE	SALT LAKE COMMUNITY COLLEGE	4600 Redwood Rd, Salt Lake City, UT 84123
USHE	SALT LAKE COMMUNITY COLLEGE-SCHOOL OF APPLIED TECHNOLOGY	4600 Redwood Rd, Salt Lake City, UT 84123
USHE	UTAH STATE UNIVERSITY EASTERN-DWE	451 E 400 N, Price, UT 84501
USBE	ACADEMY FOR MATH ENGINEERING & SCIENCE (AMES)	5715 S 1300 E, SALT LAKE CITY, UT 84121
USBE	ALBERT R LYMAN MIDDLE	535 N 100 E, BLANDING, UT 84511
USBE	ALBION MIDDLE	2755 E 8890 S, SANDY, UT 84093
USBE	ALTA HIGH	11055 S 1000 E, SANDY, UT 84094
USBE	ALTAMONT HIGH	200 W MAIN, ALTAMONT, UT 84001
USBE	ALTER SAFE SCH-HS	2500 S STATE ST, SALT LAKE CITY, UT 84115
USBE	ALTER SAFE SCH-JR HI	2500 S STATE ST, SALT LAKE CITY, UT 84115
USBE	AMERICAN FORK HIGH	510 N 600 E, AMERICAN FORK, UT 84003
USBE	AMERICAN FORK JR HIGH	20 W 1120 N, AMERICAN FORK, UT 84003
USBE	AMERICAN INTERNATIONAL SCHOOL OF UTAH	4998 S. Galleria Drive, MURRAY, UT 84123
USBE	AMERICAN LEADERSHIP ACADEMY	898 W 1100 S, SPANISH FORK, UT 84660
USBE	AMERICAN PREPARATORY ACADEMY - ACCELERATED SCHOOL	3636 W 3100 S, WEST VALLEY CITY, UT 84120
USBE	AMERICAN PREPARATORY ACADEMY - DRAPER #2	11938 South Lone Peak Parkway, DRAPER, UT 84020
USBE	AMERICAN PREPARATORY ACADEMY - SALEM	1195 S ELK RIDGE DRIVE, SALEM, UT 84653
USBE	AMERICAN PREPARATORY ACADEMY--THE SCHOOL FOR NEW AMERICANS	1255 W CRYSTAL AVE., WEST VALLEY CITY, UT 84119
USBE	ASHLEY VALLEY EDUC CTR	559 N 1700 W, VERNAL, UT 84078
USBE	BEAR RIVER HIGH	1450 S MAIN, GARLAND, UT 84312
USBE	BEAR RIVER MIDDLE	300 E 1500 S, GARLAND, UT 84312
USBE	BEAVER HIGH	195 E CENTER, BEAVER, UT 84713
USBE	BEEHIVE SCIENCE & TECHNOLOGY ACADEMY (BSTA)	830 E 9400 S, SANDY, UT 84094
USBE	BEN LOMOND HIGH	1080 9TH STREET, OGDEN, UT 84404

AGENCY	CAMPUS	ADDRESS
USBE	BENNION JR HIGH	6055 S 2700 W, TAYLORSVILLE, UT 84118
USBE	BINGHAM HIGH	2160 W 10400 S, SOUTH JORDAN, UT 84095
USBE	BLUE PEAK HIGH	211 S TOOEELE BLVD, TOOEELE, UT 84074
USBE	BONNEVILLE HIGH	251 E 4800 S, OGDEN, UT 84405
USBE	BONNEVILLE JR HIGH	5330 S 1660 E, SALT LAKE CITY, UT 84117
USBE	BOUNTIFUL HIGH	695 S ORCHARD DR, BOUNTIFUL, UT 84010
USBE	BOUNTIFUL JR HIGH	30 W 400 N, BOUNTIFUL, UT 84010
USBE	BOX ELDER HIGH	380 S 600 W, BRIGHAM CITY, UT 84302
USBE	BOX ELDER MIDDLE	18 S 500 E, BRIGHAM CITY, UT 84302
USBE	BRIGHTON HIGH	2220 E 7695 S, Salt Lake City, UT 84121
USBE	BROCKBANK JR HIGH	2935 S 8560 W, MAGNA, UT 84044
USBE	BRYCE VALLEY HIGH	721 W BRYCE WAY, TROPIC, UT 84776
USBE	BUTLER MIDDLE	7530 S 2700 E, Salt Lake City, UT 84121
USBE	CACHE ALTERNATIVE HIGH	265 W 1400 N, LOGAN, UT 84341
USBE	CANYON GROVE ACADEMY	588 W 3300 N, PLEASANT GROVE, UT 84062
USBE	CANYON HEIGHTS	525 E DATC RD, KAYSVILLE, UT 84037
USBE	CANYON VIEW HIGH	166 W 1925 N, CEDAR CITY, UT 84721
USBE	CANYON VIEW JR HIGH	625 E 950 N, OREM, UT 84097
USBE	CANYON VIEW JR HIGH	CANYON RD, HUNTINGTON, UT 84528
USBE	CANYON VIEW SCHOOL	1100 ORCHARD AVE, OGDEN, UT 84404
USBE	CARBON HIGH	750 E 400 N, PRICE, UT 84501
USBE	CEDAR CITY HIGH	703 W 600 S, CEDAR CITY, UT 84720
USBE	CEDAR RIDGE HIGH	555 W 100 N, RICHFIELD, UT 84701
USBE	CENTENNIAL JR HIGH	740 S SUNSET DR, KAYSVILLE, UT 84037
USBE	CENTENNIAL MIDDLE	305 E 2320 N, PROVO, UT 84604
USBE	CENTERVILLE JR HIGH	625 S MAIN, CENTERVILLE, UT 84014
USBE	CENTRAL DAVIS JR HIGH	663 CHURCH ST, LAYTON, UT 84041
USBE	CHURCHILL JR HIGH	3450 E 4275 S, SALT LAKE CITY, UT 84124
USBE	CITY ACADEMY	555 E 200 S, SALT LAKE CITY, UT 84102
USBE	CLARKE N JOHNSEN JR HIGH	2152 N 400 W, TOOEELE, UT 84074
USBE	CLEARFIELD HIGH	931 S FALCON DR (1000 E), CLEARFIELD, UT 84015
USBE	CON AMORE SCHOOL	325 E MAIN, MYTON, UT 84052
USBE	COPPER HILLS HIGH	5445 W 7800 S, WEST JORDAN, UT 84081
USBE	COPPER MOUNTAIN MIDDLE	12106 Anthem Park Blvd, HERRIMAN, UT 84096
USBE	CORNER CANYON HIGH	12943 S, 700 E., DRAPER, UT 84020
USBE	COTTONWOOD HIGH	5715 S 1300 E, SALT LAKE CITY, UT 84121
USBE	CYPRUS HIGH	8623 W 3000 S, MAGNA, UT 84044
USBE	DALE YOUNG COMMUNITY HIGH	230 W 200 S, BRIGHAM CITY, UT 84302
USBE	DAVINCI ACADEMY	2033 GRANT AVE, OGDEN, UT 84401
USBE	DAVIS HIGH	325 S MAIN, KAYSVILLE, UT 84037
USBE	DELTA HIGH	50 W 300 N, DELTA, UT 84624
USBE	DELTA MIDDLE	251 E 300 N, DELTA, UT 84624
USBE	DELTA NORTH SCHOOL	50 N 100 E, DELTA, UT 84624

AGENCY	CAMPUS	ADDRESS
USBE	DESERT HILLS HIGH	828 E DESERT HILLS DRIVE, SAINT GEORGE, UT 84790
USBE	DESERT HILLS MIDDLE	936 E DESERT HILLS DRIVE, SAINT GEORGE, UT 84790
USBE	DIAMOND FORK JUNIOR HIGH	50 N 900 E, SPANISH FORK, UT 84660
USBE	DIXIE HIGH	350 E 700 S, ST GEORGE, UT 84770
USBE	DIXIE MIDDLE	825 S 100 E, ST GEORGE, UT 84770
USBE	DIXON MIDDLE	750 W 200 N, PROVO, UT 84601
USBE	DRAPER PARK MIDDLE	13133 South 1300 East, DRAPER, UT 84020
USBE	DUAL IMMERSION ACADEMY	1155 S GLENDALE DRIVE, SALT LAKE CITY, UT 84104
USBE	DUCHESNE HIGH	155 W. Main Street, DUCHESNE, UT 84021
USBE	DUGWAY HIGH	BLDG 5020 EAST 5TH, DUGWAY, UT 84022
USBE	EARLY LIGHT ACADEMY AT DAYBREAK	11709 VADANIA DR, SOUTH JORDAN, UT 84009
USBE	EAST BAY POST HIGH	1170 S 350 E, Provo, UT 84601
USBE	EAST HIGH	840 S 1300 E, SALT LAKE CITY, UT 84102
USBE	EAST HOLLYWOOD HIGH	2185 S 3600 W, WEST VALLEY CITY, UT 84119
USBE	EAST SHORE ELECTRONIC HIGH	1551 W 1000 S, OREM, UT 84058
USBE	EAST SHORE HIGH	1551 W 1000 S, OREM, UT 84058
USBE	EASTMONT MIDDLE	10100 S 1300 E, SANDY, UT 84094
USBE	EISENHOWER JR HIGH	4351 S REDWOOD RD, TAYLORSVILLE, UT 84123
USBE	ELK RIDGE MIDDLE	3659 W 9800 S, SOUTH JORDAN, UT 84009
USBE	EMERY HIGH	975 N CENTER, CASTLE DALE, UT 84513
USBE	ENDEAVOR HALL	2614 S DECKER LAKE LANE, WEST VALLEY CITY, UT 84119
USBE	ENTERPRISE HIGH	565 S 200 E, ENTERPRISE, UT 84725
USBE	ENTHEOS ACADEMY	4710 W 6200 S, KEARNS, UT 84118
USBE	ENTHEOS ACADEMY MAGNA	2606 S 7200 W, MAGNA, UT 84044
USBE	ENTRADA	825 E 9085 S, SANDY, UT 84094
USBE	ESCALANTE HIGH	800 E HIGHWAY 12, ESCALANTE, UT 84726
USBE	ESCHOOL@PROVO SCHOOL DISTRICT	280 W 940 N, PROVO, UT 84604
USBE	EVERGREEN JR HIGH	3401 S 2000 E, SALT LAKE CITY, UT 84109
USBE	FAIRFIELD JR HIGH	951 N FAIRFIELD RD, KAYSVILLE, UT 84037
USBE	FARMINGTON JR HIGH	150 S 200 W, FARMINGTON, UT 84025
USBE	FAST FORWARD HIGH	875 W 1400 N, LOGAN, UT 84321
USBE	FORT HERRIMAN MIDDLE	14050 S MIRABELLA DR, HERRIMAN, UT 84065
USBE	FREEDOM PREPARATORY ACADEMY	1190 W 900 N, PROVO, UT 84604
USBE	FREMONT HIGH	1900 N 4700 W, PLAIN CITY, UT 84404
USBE	FRONTIER MIDDLE SCHOOL	1427 East Mid Valley Road, EAGLE MOUNTAIN, UT 84005
USBE	GEORGE WASHINGTON HIGH	455 28th Street, OGDEN, UT 84401
USBE	GLENDALE MIDDLE	1430 W ANDREW AVE, SALT LAKE CITY, UT 84104
USBE	GRAND COUNTY HIGH	608 S 400 E, MOAB, UT 84532
USBE	GRAND COUNTY MIDDLE	439 S 100 E, MOAB, UT 84532
USBE	GRANGER HIGH	3690 S 3600 W, WEST VALLEY CITY, UT 84119
USBE	GRANGER HIGH EXTENDED DAY	3690 S 3600 W, WEST VALLEY CITY, UT 84119

AGENCY	CAMPUS	ADDRESS
USBE	GRANITE ADULT TRANSITION EDUC	350 E 3605 S, SALT LAKE CITY, UT 84115
USBE	GRANITE CONNECTION HIGH	501 E 3900 S, SALT LAKE CITY, UT 84107
USBE	GRANITE PARK JR HIGH	3031 S 200 E, SALT LAKE CITY, UT 84115
USBE	GRANITE TECHNICAL INSTITUTE (GTI)	2500 S STATE, SALT LAKE CITY, UT 84115
USBE	GRANITE TRANSITIONAL SERV POST SEC TRANSITION	382 E 3605 S, SALT LAKE CITY, UT 84115
USBE	GRANITE TRANSITIONAL SERV POST SEC TRANSITION	382 E 3605 S, SALT LAKE CITY, UT 84115
USBE	GRANTSVILLE HIGH	155 E CHERRY ST, GRANTSVILLE, UT 84029
USBE	GRANTSVILLE JR HIGH	318 S HALE, GRANTSVILLE, UT 84029
USBE	GREEN RIVER HIGH	400 N 455 W, GREEN RIVER, UT 84525
USBE	GROUSE CREEK SCHOOL	1 W BUCKAROO BLVD, GROUSE CREEK, UT 84313
USBE	GUNNISON VALLEY HIGH	35 E 600 S, GUNNISON, UT 84634
USBE	HARTVIGSEN SCHOOL	1510 W 5400 S, TAYLORSVILLE, UT 84123
USBE	HAWTHORN ACADEMY	9062 S 2200 W, WEST JORDAN, UT 84088
USBE	HELPER MIDDLE	151 UINTAH ST, HELPER, UT 84526
USBE	HERRIMAN HIGH	11917 S 6000 W, HERRIMAN, UT 84096
USBE	HIGHLAND HIGH	2166 S 1700 E, SALT LAKE CITY, UT 84106
USBE	HIGHLAND JUNIOR HIGH	325 GRAMERCY AVE, OGDEN, UT 84404
USBE	HIGHMARK CHARTER SCHOOL	2467 EAST SOUTH WEBER DRIVE, SOUTH WEBER, UT 84405
USBE	HILLCREST HIGH	7350 S 900 E, MIDVALE, UT 84047
USBE	HILLCREST JR HIGH	178 E 5300 S, MURRAY, UT 84107
USBE	HORIZONTE INSTR & TRN CTR	1234 S MAIN, SALT LAKE CITY, UT 84101
USBE	HUNTER HIGH	4200 S 5600 W, WEST VALLEY CITY, UT 84120
USBE	HUNTER JR HIGH	6131 W 3785 S, WEST VALLEY CITY, UT 84120
USBE	HURRICANE HIGH	345 W TIGER BLVD, HURRICANE, UT 84737
USBE	HURRICANE MIDDLE	395 N 200 W, HURRICANE, UT 84737
USBE	INDEPENDENCE HIGH	636 N INDEPENDENCE AVE, PROVO, UT 84601
USBE	INDIAN HILLS MIDDLE	1180 E 11600 S, SANDY, UT 84094
USBE	INNOVATIONS HIGH SCHOOL	1700 SOUTH STATE STREET, SALT LAKE CITY, UT 84115
USBE	INTECH COLLEGIATE HIGH SCHOOL	1787 N RESEARCH PARKWAY, NORTH LOGAN, UT 84341
USBE	ITINERIS EARLY COLLEGE HIGH	8714 Roy Del Circle, WEST JORDAN, UT 84088
USBE	JOEL P JENSEN MIDDLE	8105 S 3200 W, WEST JORDAN, UT 84088
USBE	JOHN F. KENNEDY JR HIGH	4495 S 4800 W, WEST VALLEY CITY, UT 84120
USBE	JORDAN HIGH	95 E 9825 S, SANDY, UT 84070
USBE	JUAB HIGH	802 N 650 E, NEPHI, UT 84648
USBE	JUAB JR HIGH	555 E 800 N, NEPHI, UT 84648
USBE	KAIROS ACADEMY	1325 West 2200 South Suite A, WEST VALLEY CITY, UT 84119
USBE	KANAB HIGH	59 E COWBOY DR, KANAB, UT 84741
USBE	KANAB MIDDLE	690 S COWBOY WAY, KANAB, UT 84741
USBE	KARL G MAESER PREPARATORY ACADEMY	320 W 600 S, LINDON, UT 84042
USBE	KAYSVILLE JR HIGH	100 E 350 S, KAYSVILLE, UT 84037
USBE	KEARNS HIGH	5525 S COUGAR LN, KEARNS, UT 84118

AGENCY	CAMPUS	ADDRESS
USBE	KEARNS JR HIGH	4040 West Sam's Blvd. KEARNS, UT 84118
USBE	LAKE POWELL HIGH SCHOOL	1000 FERRY RD, LAKE POWELL, UT 84533
USBE	LAKERIDGE JR HIGH	951 S 400 W, OREM, UT 84058
USBE	LAKEVIEW ACADEMY	527 W 400 N, SARATOGA SPRINGS, UT 84045
USBE	LANDMARK HIGH	612 S MAIN, SPANISH FORK, UT 84660
USBE	LAYTON HIGH	440 LANCER LN, LAYTON, UT 84041
USBE	LEGACY HIGH	105 S 400 E, SPRINGVILLE, UT 84663
USBE	LEGACY JR HIGH	411 N 3200 W, LAYTON, UT 84041
USBE	LEGACY PREPARATORY ACADEMY	1375 W CENTER STREET, North Salt Lake, UT 84054
USBE	LEHI HIGH	180 N 500 E, LEHI, UT 84043
USBE	LEHI JR HIGH	700 E CEDAR HOLLOW RD, LEHI, UT 84043
USBE	LIFELINE	1130 W CENTER, NORTH SALT LAKE, UT 84054
USBE	LIGHTHOUSE HIGH	251 W 400 N, PRICE, UT 84501
USBE	LINCOLN ACADEMY	1582 W 3300 N, PLEASANT GROVE, UT 84062
USBE	LOGAN HIGH	162 W 100 S, LOGAN, UT 84321
USBE	LONE PEAK HIGH	10189 N 4800 W, HIGHLAND, UT 84003
USBE	MANA ACADEMY CHARTER SCHOOL	2355 S TECHNOLOGY DRIVE, WEST VALLEY CITY, UT 84119
USBE	MANILA HIGH	160 W 200 N, MANILA, UT 84046
USBE	MANTI HIGH	100 W 500 N, MANTI, UT 84642
USBE	MAPLE MOUNTAIN HIGH	51 N 2550 E, SPANISH FORK, UT 84660
USBE	MAPLETON JUNIOR HIGH	362 E 1200 N, MAPLETON, UT 84664
USBE	MARIA MONTESSORI ACADEMY	2505 N 200 E, OGDEN, UT 84414
USBE	MERIT COLLEGE PREPARATORY ACADEMY	1440 W CENTER STREET, SPRINGVILLE, UT 84663
USBE	MIDVALE MIDDLE	7852 S PIONEER ST, MIDVALE, UT 84047
USBE	MILFORD HIGH	62 N 300 W, MILFORD, UT 84751
USBE	MILLARD HIGH	200 W EAGLE AVE, FILLMORE, UT 84631
USBE	MILLCREEK HIGH	2410 E RIVERSIDE DR, ST GEORGE, UT 84790
USBE	MILLCREEK JR HIGH	245 E 1000 S, BOUNTIFUL, UT 84010
USBE	MONT HARMON MIDDLE	60 W 400 N, PRICE, UT 84501
USBE	MONTICELLO ACADEMY	2782 S CORPORATE PARK DRIVE, WEST VALLEY CITY, UT 84120
USBE	MONTICELLO HIGH	164 S 200 W, MONTICELLO, UT 84535
USBE	MONUMENT VALLEY HIGH	US STATE HIGHWAY #163, MONUMENT VALLEY, UT 84536
USBE	MORGAN HIGH	55 N 200 E, MORGAN, UT 84050
USBE	MORGAN MIDDLE	115 E YOUNG ST, MORGAN, UT 84050
USBE	MOUND FORT JUNIOR HIGH	1400 MOUND FORT DR, OGDEN, UT 84404
USBE	MOUNT JORDAN MIDDLE	9360 S. 300 E., SANDY, UT 84070
USBE	MOUNT OGDEN JUNIOR HIGH	3260 HARRISON BLVD, OGDEN, UT 84403
USBE	MOUNTAIN CREST HIGH	255 S 800 E, HYRUM, UT 84319
USBE	MOUNTAIN HEIGHTS ACADEMY	9067 S 1300 W Suite 204, WEST JORDAN, UT 84088
USBE	MOUNTAIN HIGH	490 S 500 E, KAYSVILLE, UT 84037
USBE	MOUNTAIN RIDGE JR HIGH	5525 W 10400 N, HIGHLAND, UT 84003

AGENCY	CAMPUS	ADDRESS
USBE	MOUNTAIN VIEW HIGH	665 W CENTER, OREM, UT 84057
USBE	MOUNTAINVILLE ACADEMY	195 S MAIN, ALPINE, UT 84004
USBE	MT. NEBO JUNIOR HIGH	851 W 450 S, PAYSON, UT 84651
USBE	MUELLER PARK JR HIGH	995 E 1800 S, BOUNTIFUL, UT 84010
USBE	MURRAY HIGH	5440 S STATE, MURRAY, UT 84107
USBE	NAVAJO MOUNTAIN HIGH	RESERVATION RD #16, NAVAJO MT, UT 84510
USBE	NAVIGATOR POINTE ACADEMY	6844 S NAVIGATOR RD, WEST JORDAN, UT 84084
USBE	NEBO ADVANCED LEARNING CENTER	570 S MAIN, SPRINGVILLE, UT 84663
USBE	NO UT ACAD FOR MATH ENGINEERING & SCIENCE (NUAMES)	2750 N UNIVERSITY PARK BLVD, LAYTON, UT 84041
USBE	NORTH CACHE CENTER	157 W 600 S, RICHMOND, UT 84333
USBE	NORTH DAVIS JR HIGH	835 S STATE, CLEARFIELD, UT 84015
USBE	NORTH DAVIS PREPARATORY ACADEMY	1765 W HILLFIELD RD, LAYTON, UT 84041
USBE	NORTH LAYTON JR HIGH	1100 W 2000 N, LAYTON, UT 84041
USBE	NORTH OGDEN JR HIGH	575 E 2900 N, OGDEN, UT 84414
USBE	NORTH SANPETE HIGH	390 E 700 S, MT PLEASANT, UT 84647
USBE	NORTH SANPETE MIDDLE	655 E 100 S, MORONI, UT 84646
USBE	NORTH SEVIER HIGH	350 W 400 N, SALINA, UT 84654
USBE	NORTH STAR ACADEMY	2920 W 14000 S, Bluffdale, UT 84065
USBE	NORTH SUMMIT HIGH	53 S 100 E, COALVILLE, UT 84017
USBE	NORTHRIDGE HIGH	2430 N HILLFIELD RD, LAYTON, UT 84041
USBE	OAK CANYON JR HIGH	111 S 725 E, LINDON, UT 84042
USBE	OAK SPRINGS SCHOOL	1300 E CENTER, PROVO, UT 84601
USBE	ODYSSEY CHARTER SCHOOL	738 E QUALITY DR, American Fork, UT 84003
USBE	OGDEN HIGH	2828 HARRISON BLVD, OGDEN, UT 84403
USBE	OGDEN PREPARATORY ACADEMY	1415 Lincoln Ave, OGDEN, UT 84404
USBE	OLYMPUS HIGH	4055 S 2300 E, SALT LAKE CITY, UT 84124
USBE	OLYMPUS JR HIGH	2217 E 4800 S, SALT LAKE CITY, UT 84117
USBE	OQUIRRH HILLS MIDDLE	12949 S 2700 W, RIVERTON, UT 84065
USBE	OREM HIGH	175 S 400 E, OREM, UT 84097
USBE	OREM JR HIGH	765 N 600 W, OREM, UT 84057
USBE	ORION JR HIGH	370 W 2000 N, HARRISVILLE, UT 84414
USBE	PACIFIC HERITAGE ACADEMY	1755 W 1100 N, SALT LAKE CITY, UT 84116
USBE	PANGUITCH HIGH	390 E 100 S, PANGUITCH, UT 84759
USBE	PARADIGM HIGH SCHOOL	11577 S 3600 W, SOUTH JORDAN, UT 84095
USBE	PARK CITY HIGH	1750 KEARNS BLVD, PARK CITY, UT 84060
USBE	PARK CITY LEARNING CENTER	2400 KEARNS BLVD, PARK CITY, UT 84060
USBE	PARK VALLEY SCHOOL	788 EDUCATION DR, PARK VALLEY, UT 84329
USBE	PAROWAN HIGH	50 W 100 N, PAROWAN, UT 84761
USBE	PAYSON HIGH	1050 S MAIN, PAYSON, UT 84651
USBE	PAYSON JR HIGH	1025 S HIGHWAY 6, PAYSON, UT 84651
USBE	PINE VIEW HIGH	2850 E 750 N, ST GEORGE, UT 84790
USBE	PINE VIEW MIDDLE	2145 E 130 N, ST GEORGE, UT 84790
USBE	PINNACLE CANYON ACADEMY	210 N 600 E, Price, UT 84501

AGENCY	CAMPUS	ADDRESS
USBE	PIONEER HIGH SCHOOL FOR THE PERFORMING ARTS	555 E MAIN STREET, AMERICAN FORK, UT 84003
USBE	PIUTE HIGH	550 N 100 W, JUNCTION, UT 84740
USBE	PLEASANT CREEK HIGH SCHOOL	220 EAST 700 SOUTH, MOUNT PLEASANT, UT 84647
USBE	PLEASANT GROVE HIGH	700 E 200 S, PLEASANT GROVE, UT 84062
USBE	PLEASANT GROVE JR HIGH	810 N 100 E, PLEASANT GROVE, UT 84062
USBE	POLARIS HIGH SCHOOL	1551 W 1000 S, OREM, UT 84058
USBE	PROVIDENCE HALL	4795 W Patriot Ridge Drive, HERRIMAN, UT 84096
USBE	PROVO ADULT EDUCATION	636 N INDEPENDENCE AVE, PROVO, UT 84601
USBE	PROVO HIGH	1125 N UNIVERSITY AVE, PROVO, UT 84604
USBE	QUEST ACADEMY	4862 W 4000 S, WEST HAVEN, UT 84401
USBE	REAGAN ACADEMY	1143 W CENTER, SPRINGVILLE, UT 84663
USBE	RENAISSANCE ACADEMY	264 S 500 E, KAYSVILLE, UT 84037
USBE	RENAISSANCE ACADEMY	3435 N 1120 E, LEHI, UT 84043
USBE	RICH HIGH	140 W CHURCH, RANDOLPH, UT 84064
USBE	RICH MIDDLE SCHOOL	54 E 100 S, LAKETOWN, UT 84038
USBE	RICHFIELD HIGH	495 West Center, RICHFIELD, UT 84701
USBE	RIVERS EDGE SCHOOL	319 W 11000 S, SOUTH JORDAN, UT 84095
USBE	RIVERTON HIGH	12476 S SILVERWOLF WAY (2700 W, RIVERTON, UT 84065
USBE	RIVERVIEW JR HIGH	751 W TRIPP LANE, MURRAY, UT 84123
USBE	ROCKWELL CHARTER HIGH SCHOOL	3435 E STONEBRIDGE LANE, EAGLE MOUNTAIN, UT 84005
USBE	ROCKY MOUNTAIN JR HIGH	4350 W 4800 S, WEST HAVEN CITY, UT 84401
USBE	ROCKY MOUNTAIN MIDDLE	800 W SCHOOL HOUSE WAY, HEBER CITY, UT 84032
USBE	ROY HIGH	2150 W 4800 S, ROY, UT 84067
USBE	ROY JR HIGH	5400 S 2100 W, ROY, UT 84067
USBE	SALEM HILLS HIGH	150 N SKYHAWK BLVD, SALEM, UT 84653
USBE	SALEM JUNIOR HIGH	598 NORTH MAIN, SALEM, UT 84653
USBE	SALT LAKE CENTER FOR SCIENCE EDUCATION	1400 W GOODWIN AVE, SALT LAKE CITY, UT 84116
USBE	SALT LAKE SCHOOL FOR THE PERFORMING ARTS	2291 S 2000 E, SALT LAKE CITY, UT 84106
USBE	SAN JUAN HIGH	311 N 100 E, BLANDING, UT 84511
USBE	SAN RAFAEL JR HIGH	420 W 500 S, FERRON, UT 84523
USBE	SAND RIDGE JR HIGH	2075 W 4600 S, ROY, UT 84067
USBE	SCOTT M MATHESON JR HIGH	3650 S MONTCLAIR ST, MAGNA, UT 84044
USBE	SKY VIEW HIGH	520 S 250 E, SMITHFIELD, UT 84335
USBE	SKYLINE HIGH	3251 E 3760 S, SALT LAKE CITY, UT 84109
USBE	SNOW CANYON HIGH	1385 N LAVA FLOW DR, ST GEORGE, UT 84770
USBE	SNOW CANYON MIDDLE	1215 N LAVA FLOW DR, ST GEORGE, UT 84770
USBE	SNOWCREST JR HIGH	2755 N HIGHWAY 162, EDEN, UT 84310
USBE	SOUTH CACHE CENTER	10 S 480 W, HYRUM, UT 84319
USBE	SOUTH DAVIS JR HIGH	298 W 2600 S, BOUNTIFUL, UT 84010
USBE	SOUTH HILLS MIDDLE	13508 S 4000 W, RIVERTON, UT 84065
USBE	SOUTH JORDAN MIDDLE	10245 S 2700 W, SOUTH JORDAN, UT 84095
USBE	SOUTH OGDEN JR HIGH	650 E PLEASANT VALLEY DR, OGDEN, UT 84405

AGENCY	CAMPUS	ADDRESS
USBE	SOUTH SEVIER HIGH	430 W 100 S, MONROE, UT 84754
USBE	SOUTH SUMMIT HIGH	45 S 300 E, KAMAS, UT 84036
USBE	SOUTH SUMMIT MIDDLE	355 E 300 S, KAMAS, UT 84036
USBE	SOUTHWEST EDUCATIONAL ACADEMY	510 W 800 S, CEDAR CITY, UT 84720
USBE	SPANISH FORK HIGH	99 N 300 W, SPANISH FORK, UT 84660
USBE	SPANISH FORK JR HIGH	600 S 820 E, SPANISH FORK, UT 84660
USBE	SPECTRUM ACADEMY	575 N CUTLER DR, NORTH SALT LAKE, UT 84054
USBE	SPRINGVILLE HIGH	1205 E 900 S, SPRINGVILLE, UT 84663
USBE	SPRINGVILLE JR HIGH	165 S 700 E, SPRINGVILLE, UT 84663
USBE	STANSBURY HIGH	5300 N ABERDEEN LANE, STANSBURY PARK, UT 84074
USBE	STRIDE (SPED)	100 S 200 E, FARMINGTON, UT 84025
USBE	SUCCESS ACADEMY	351 W UNIVERSITY BLVD, CEDAR CITY, UT 84720
USBE	SUCCESS DSU	225 South 700 East, ST GEORGE, UT 84770
USBE	SUCCESS SCHOOL	4122 S 1785 W SUITE 2B, TAYLORSVILLE, UT 84119
USBE	SUMMIT ACADEMY	1285 E 13200 S, DRAPER, UT 84020
USBE	SUMMIT ACADEMY HIGH SCHOOL	14942 S 560 W, BLUFFDALE, UT 84065
USBE	SUMMIT HIGH	1581 W 1000 S, Orem, UT 84058
USBE	SUMMIT VIEW	1100 ORCHARD AVE, OGDEN, UT 84404
USBE	SUNSET JR HIGH	1610 N 250 W, SUNSET, UT 84015
USBE	SUNSET RIDGE MIDDLE	6881 W 8200 S, WEST JORDAN, UT 84081
USBE	SYRACUSE ARTS ACADEMY	2893 W 1700 S, SYRACUSE, UT 84075
USBE	SYRACUSE HIGH	665 S 2000 W, SYRACUSE, UT 84075
USBE	SYRACUSE JR HIGH	1450 S 2000 W, SYRACUSE, UT 84075
USBE	T H BELL JR HIGH	165 W 5100 S, OGDEN, UT 84405
USBE	TABIONA HIGH	10 N MAIN, TABIONA, UT 84072
USBE	TAYLORSVILLE HIGH	5225 S REDWOOD ROAD, TAYLORSVILLE, UT 84123
USBE	THOMAS EDISON - SOUTH	1275 W 2350 S, NIBLEY, UT 84321
USBE	THOMAS JEFFERSON JR HIGH	5850 S 5600 W, KEARNS, UT 84118
USBE	THOMPSEN HIGH	7000 W 3000 S, ROOSEVELT, UT 84066
USBE	TIMBERLINE MIDDLE	500 W Canyon Crest, Alpine, UT 84004
USBE	TIMPANOGOS HIGH	1450 N 200 E, OREM, UT 84057
USBE	TIMPVUE HIGH	3570 N 650 E, PROVO, UT 84604
USBE	TINTIC HIGH	525 E MAIN, EUREKA, UT 84628
USBE	TOOELE COMMUNITY LEARNING CENTER	211 S TOOELE BLVD, TOOELE, UT 84074
USBE	TOOELE HIGH	301 W VINE, TOOELE, UT 84074
USBE	TOOELE JR HIGH	411 W VINE ST, TOOELE, UT 84074
USBE	TREASURE MTN JUNIOR HIGH SCHOOL	2530 KEARNS BLVD, PARK CITY, UT 84060
USBE	TRIDENT SCHOOL	2250 N 1700 W, LAYTON, UT 84041
USBE	TUACAHN HIGH SCHOOL FOR THE PERFORMING ARTS	1100 TUACAHN DR, IVINS, UT 84738
USBE	TWO RIVERS HIGH	955 W 12th Street, OGDEN, UT 84404
USBE	UINTAH HIGH	1880 W 500 N, VERNAL, UT 84078
USBE	UINTAH MIDDLE SCHOOL	161 N 1000 W, VERNAL, UT 84078
USBE	UINTAH RIVER HIGH	998 E 7500 S, FORT DUCHESNE, UT 84026

AGENCY	CAMPUS	ADDRESS
USBE	UNION HIGH	135 N UNION (124-3), ROOSEVELT, UT 84066
USBE	UNION MIDDLE	615 E 8000 S, SANDY, UT 84070
USBE	UTAH CAREER PATH HIGH SCHOOL	450 South Simmons Way, KAYSVILLE, UT 84037
USBE	UTAH CONNECTIONS ACADEMY	687 West 700 South, Suite D, WOODS CROSS, UT 84087
USBE	UTAH COUNTY ACADEMY OF SCIENCE (UCAS)	940 W 800 S, OREM, UT 84058
USBE	UTAH MILITARY ACADEMY	5120 S, 1050 W., RIVERDALE, UT 84405
USBE	UTAH ONLINE 7-12	121 W. TABERNACLE, SAINT GEORGE, UT 84770
USBE	UTAH VIRTUAL ACADEMY	310 E 4500 S, MURRAY, UT 84107
USBE	VALLEY HIGH	150 N CENTER, ORDERVILLE, UT 84758
USBE	VALLEY HIGH SCHOOL	325 W 11000 S, SOUTH JORDAN, UT 84095
USBE	VALLEY JR HIGH	4195 S 3200 W, WEST VALLEY CITY, UT 84119
USBE	VENTURE ACADEMY	495 N 1500 W, MARRIOTT-SLATERVILLE CITY, UT 84404
USBE	VIEWMONT HIGH	120 W 1000 N, BOUNTIFUL, UT 84010
USBE	VISTA HEIGHTS MIDDLE	484 W PONY EXPRESS PARKWAY, SARATOGA SPRINGS, UT 84045
USBE	WAHLQUIST JR HIGH	2656 N 2400 W, FARR WEST, UT 84404
USBE	WALDEN SCHOOL OF LIBERAL ARTS	4230 N UNIVERSITY AVE, PROVO, UT 84604
USBE	WASATCH HIGH	930 S 500 E, HEBER CITY, UT 84032
USBE	WASATCH INSTITUTE OF TECHNOLOGY	120 W Vine St #200, MURRAY, UT 84107
USBE	WASATCH JR HIGH	3750 S 3100 E, SALT LAKE CITY, UT 84109
USBE	WATER CANYON SCHOOL	250 W Newel Avenue, HILDALE, UT 84784
USBE	WAYNE HIGH	265 N 400 W, BICKNELL, UT 84715
USBE	WAYNE MIDDLE	75 North Center, BICKNELL, UT 84715
USBE	WEBER BASIN JOB CORPS	7400 S CORNIA DR, OGDEN, UT 84405
USBE	WEBER HIGH	430 W WEBER HIGH DR, OGDEN, UT 84414
USBE	WENDOVER HIGH	110 WILDCAT BLVD, WENDOVER, UT 84083
USBE	WEST DESERT HIGH SCHOOL	440 TROUT CREEK, TROUT CREEK, UT 84083
USBE	WEST HIGH	241 N 300 W, SALT LAKE CITY, UT 84103
USBE	WEST HILLS MIDDLE	8270 SO 5290 W, WEST JORDAN, UT 84081
USBE	WEST JORDAN HIGH	8136 S 2700 W, WEST JORDAN, UT 84088
USBE	WEST JORDAN MIDDLE	7550 S 1700 W, WEST JORDAN, UT 84084
USBE	WEST LAKE JR HIGH	3400 S 3450 W, WEST VALLEY CITY, UT 84119
USBE	WEST POINT JR HIGH	2775 W 550 N, WEST POINT, UT 84015
USBE	WESTLAKE HIGH	99 N 200 W, SARATOGA SPRINGS, UT 84045
USBE	WHITEHORSE HIGH	STATE HIGHWAY #262, MONTEZUMA CREEK, UT 84534
USBE	WILLOWCREEK MIDDLE	2275 W 300 N, Lehi, UT 84043
USBE	WINTER SPORTS SCHOOL	4251 Shadow Mountain Drive, PARK CITY, UT 84098
USBE	WOODS CROSS HIGH	600 W 2200 S, WOODS CROSS, UT 84087
USBE	YOUNG MOTHERS PROGRAM	83 S 100 W, LOGAN, UT 84321
USBE	YOUNG PARENTS PROGRAM	3760 S 4610 W, WEST VALLEY CITY, UT 84120
USBE	YOUTH EDUCATIONAL SUPPORT SCHOOL	450 East 3700 South, SALT LAKE CITY, UT 84115

PROGRAM DESCRIPTION

AGENCY	PROGRAM	DESCRIPTION
USBE	Accounting and Finance	A program that prepares individuals to practice the profession of accounting and to perform related business functions. Includes instruction in accounting principles and theory, financial accounting, managerial accounting, cost accounting, budget control, tax accounting, legal aspects of accounting, auditing, reporting procedures, statement analysis, planning and consulting, business information systems, accounting research methods, professional standards and ethics, and applications to specific for-profit, public, and non-profit organizations.
USBE	Aerospace Manufacturing	A program that prepares individuals to practice the profession of accounting and to perform related business functions. Includes instruction in accounting principles and theory, financial accounting, managerial accounting, cost accounting, budget control, tax accounting, legal aspects of accounting, auditing, reporting procedures, statement analysis, planning and consulting, business information systems, accounting research methods, professional standards and ethics, and applications to specific for-profit, public, and non-profit organizations.
USBE	Agricultural Systems Technology	A program that generally prepares individuals to sell, select, and service agricultural or agribusiness technical equipment and facilities, including computers, specialized software, power units, machinery, equipment structures, and utilities. Includes instruction in agricultural power systems, planning and selecting materials for the construction of support facilities, mechanical practices associated with irrigation and water conservation, erosion control, and agricultural data processing systems.
USBE	Animal Systems	A general program that focuses on the scientific principles that underlie the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products. Includes instruction in the animal sciences, animal husbandry and production, and agricultural and food products processing.
USBE	Automotive Collision Repair	A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems.
USBE	Automotive Service Technician	A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems.
USBE	Aviation Technology	A program that prepares individuals to apply technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue fixed wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to sit for the FAA commercial and airline aircrew examinations.
USBE	Biotechnology	A program that prepares individuals for the independent professional practice of medicine, involving the prevention, diagnosis, and treatment of illnesses, injuries, and other disorders of the human body. Includes instruction in the basic medical sciences, clinical medicine, examination and diagnosis, patient communications, medical ethics and law, professional standards, and rotations in specialties such as internal medicine, surgery, pediatrics, obstetrics and gynecology, orthopedics, neurology, ophthalmology, radiology, clinical pathology, anesthesiology, family medicine, and psychiatry.
USBE	Business Administrative and Technical Support	A program that prepares individuals for the independent professional practice of medicine, involving the prevention, diagnosis, and treatment of illnesses, injuries, and other disorders of the human body. Includes instruction in the basic medical sciences, clinical medicine, examination and diagnosis, patient communications, medical ethics and law, professional standards, and rotations in specialties such as internal medicine, surgery, pediatrics, obstetrics and gynecology, orthopedics, neurology, ophthalmology, radiology, clinical pathology, anesthesiology, family medicine, and psychiatry.
USBE	Cabinetmaking/ Millwork	A program that generally prepares individuals to apply technical knowledge and skills to lay out and shape stock; assemble wooden articles or subassemblies; mark, bind, saw, carve, and sand wooden products; repair wooden articles, and use a variety of hand and power tools.
USBE	Carpentry	A program that prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. Includes instruction in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.
USBE	Clinical Laboratory and Medical Forensics	A program that prepares individuals, under the supervision of clinical laboratory scientists/medical technologists, to perform routine medical laboratory procedures and tests and to apply preset strategies to record and analyze data. Includes instruction in general laboratory procedures and skills; laboratory mathematics; medical computer applications; interpersonal and communications skills; and the basic principles of hematology, medical microbiology, immunohematology, immunology, clinical chemistry, and urinalysis.
USBE	Commercial Art	A program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via illustrations and other forms of digital or printed media. Includes instruction in concept design, layout, paste-up, and techniques such as engraving, etching, silkscreen, lithography, offset, drawing and cartooning, painting, collage, and computer graphics.

AGENCY	PROGRAM	DESCRIPTION
USBE	Commercial Photography	A program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences, and recording events and people, via digital, film, still and video photography. Includes instruction in specialized camera and equipment operation and maintenance, applications to commercial and industrial needs, and photography business operations.
USBE	Consumer Economics Services	A program that focuses on the application of micro- and macro-economic theory to consumer behavior and individual and family consumption of goods and services. Includes instruction in modeling, economic forecasting, indexing, price theory, and analysis of individual commodities and services and/or groups of related commodities and services.
USBE	Cosmetology/Barbering	A program that generally prepares individuals to cut, trim, and style scalp, facial, and body hair; apply cosmetic preparations; perform manicures and pedicures; massage the head and extremities; and prepare for practice as licensed cosmetologists in specialized or full-service salons. Includes instruction in hair cutting and styling, manicuring, pedicuring, facial treatments, shampooing, chemical applications, aesthetics, shop management, sanitation and safety, customer service, and applicable professional and labor laws and regulations.
USBE	Dental	A program that prepares individuals to provide patient care, take dental radiographs (x-ray photographs), prepare patients and equipment for dental procedures, and discharge office administrative functions under the supervision of dentists and dental hygienists. Includes instruction in medical record-keeping, general office duties, reception and patient intake, scheduling, equipment maintenance and sterilization, basic radiography, pre- and post-operative patient care and instruction, chairside assisting, taking tooth and mouth impressions, and supervised practice.
USBE	Digital Media	A general, undifferentiated program that focuses on the use of computerized digital images as the primary medium of expression in the visual and performing arts, and that may prepare individuals for a wide variety of careers using new media, including graphic design, digital animation, motion graphics, 3D visualization, game and interactive media design, music and sound design, video production, web design, photography, and other fields.
USBE	Early Childhood Education	A program that prepares individuals to teach students ranging in age from infancy through eight years (grade three), depending on the school system or state regulations. Includes preparation to teach all relevant subject matter.
USBE	Electrician	A program that prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair electric apparatus and systems such as residential, commercial, and industrial electric-power wiring; and DC and AC motors, controls, and electrical distribution panels. Includes instruction in the principles of electronics and electrical systems, wiring, power transmission, safety, industrial and household appliances, job estimation, electrical testing and inspection, and applicable codes and standards.
USBE	Electronics	A program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrical/electronic equipment used in industry and manufacturing. Includes instruction in installing, maintaining and testing various types of equipment.
USBE	Emergency Medical Technician	A program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrical/electronic equipment used in industry and manufacturing. Includes instruction in installing, maintaining and testing various types of equipment.
USBE	Engineering	A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise Ambulance personnel. Includes instruction in basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.
USBE	Entrepreneurship and Management	A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise Ambulance personnel. Includes instruction in basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.
USBE	Esthetician/Nail Technician	A program that prepares individuals to shape fingernails and toenails, remove unwanted skin and blemishes, apply polish and cosmetics to nails, and function as licensed manicurists or nail technicians/specialists. Includes instruction in manicuring theory; skin anatomy; nail growth, irregularities, and diseases; sterilization and sanitation; equipment and table maintenance; cuticle, blemish, and rough skin removal; nail filing, shaping, and polishing; cream application and extremity massage; nail sculpture and design art; product storage and use; customer service; laws and regulations; and business practices.
USBE	Family and Human Services	A program that focuses on the general study and provision of human and social services to individuals and communities and prepares individuals to work in public and private human services agencies and organizations. Includes instruction in the social sciences, psychology, principles of social service, human services policy, planning and evaluation, social services law and administration, and applications to particular issues, services, localities, and populations.

AGENCY	PROGRAM	DESCRIPTION
USBE	Fashion Design, Manufacturing, and Merchandising	A program that prepares individuals to promote product lines/brands, and organize promotional campaigns, at the wholesale level to attract retailer interest, wholesale purchasing, and supply contracts. Includes instruction in wholesaling, wholesale advertising, selling, and customer relations.
USBE	Food Production and Processing Systems	A program that prepares individuals to receive, inspect, store, process, and package agricultural products in the form of human food consumables, animal or plant food, or other industrial products. Includes instruction in the nutrient and industrial properties of various agricultural products; logistics and storage procedures; chemical and mechanical processing operations; packaging; safety and health requirements; and related technical and business principles.
USBE	Food Science, Dietetics, and Nutrition	A program that prepares individuals to apply the principles of dietetics and the biomedical and nutrition sciences to design and manage effective nutrition programs as part of clinical treatment and therapy programs, and to manage health care facility food services. Includes instruction in human nutrition, nutrient metabolism, the role of foods and nutrition in health promotion and disease prevention, nutrition as a treatment regime, planning and directing hospital food service programs, diet and nutrition analysis and planning, supervision of food storage and preparation, special diets, client education, and professional standards and regulations.
USBE	Food Services, and Culinary Arts	A program that focuses on the general study of the cooking and related culinary arts, and that may prepare individuals for a variety of jobs within the food service industry. Includes instruction in food preparation, cooking techniques, equipment operation and maintenance, sanitation and safety, communication skills, applicable regulations, and principles of food service management.
USBE	Graphics/Printing	A program that generally prepares individuals to apply technical knowledge and skills in the manufacture and distribution or transmission of graphic communications products. Includes instruction in the prepress, press, and postpress phases of production operations and processes such as offset lithography, flexography, gravure, letterpress, screen printing, foil stamping, digital imaging, and other reproduction methods.
USBE	Heavy Duty Diesel	A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain diesel engines in vehicles such as automobiles, buses, ships, trucks, railroad locomotives, and construction equipment; as well as stationary diesel engines in electrical generators and related equipment.
USBE	Hospitality and Tourism	A program that prepares individuals to produce, store, and deliver plant species in controlled indoor environments for wholesale, commercial, research, or other purposes. Includes instruction in applicable principles of plant science; climate, irrigation, and nutrition control equipment operation and maintenance; facilities management; inventory control; safety procedures; and personnel supervision.
USBE	HVAC	A program that prepares individuals to apply technical knowledge and skills to repair, install, service and maintain the operating condition of heating, air conditioning, and refrigeration systems. Includes instruction in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity, and electronics as they relate to the repair of heating, air conditioning and refrigeration systems.
USBE	Interior Design	A program in the applied visual arts that prepares individuals to apply artistic principles and techniques to the professional planning, designing, equipping, and furnishing of residential and commercial interior spaces. Includes instruction in computer applications, drafting, and graphic techniques; principles of interior lighting, acoustics, systems integration, and color coordination; furniture and furnishings; textiles and their finishing; the history of interior design and period styles; basic structural design; building codes and inspection regulations; and applications to office, hotel, factory, restaurant and housing design.
USBE	Machine Tool	A program that prepares individuals to apply technical knowledge and skills to fabricate and modify metal parts in support of other manufacturing, repair or design activities, or as an independent business.
USBE	Marketing	A program that prepares individuals to apply technical knowledge and skills to fabricate and modify metal parts in support of other manufacturing, repair or design activities, or as an independent business.
USBE	Mechanical Design (CAD/Drafting)	A program that generally prepares individuals to undertake and manage the process of developing consumer audiences and moving products from producers to consumers. Includes instruction in buyer behavior and dynamics, principle of marketing research, demand analysis, cost-volume and profit relationships, pricing theory, marketing campaign and strategic planning, market segments, advertising methods, sales operations and management, consumer relations, retailing, and applications to specific products and markets.
USBE	Medical Assistant	A program that prepares individuals, under the supervision of physicians, to provide medical office administrative services and perform clinical duties including patient intake and care, routine diagnostic and recording procedures, pre-examination and examination assistance, and the administration of medications and first aid. Includes instruction in basic anatomy and physiology; medical terminology; medical law and ethics; patient psychology and communications; medical office procedures; and clinical diagnostic, examination, testing, and treatment procedures.

AGENCY	PROGRAM	DESCRIPTION
USB	Medical Office Administrative Assistant	A program that prepares individuals, under the supervision of nurses or ward supervisors, to perform routine administrative and reception duties in a patient care unit within a hospital or other health care facility. Includes instruction in receiving and directing visitors, transcribing medical and nursing orders, preparing requisition forms, scheduling patient appointments and procedures, monitoring patients and personnel, and interpersonal skills.
USB	Natural Resource Systems	A general program that focuses on the studies and activities relating to the natural environment and its conservation, use, and improvement. Includes instruction in subjects such as climate, air, soil, water, land, fish and wildlife, and plant resources; in the basic principles of environmental science and natural resources management; and the recreational and economic uses of renewable and nonrenewable natural resources.
USB	Network and IT Support	A program that prepares individuals to plan, develop, manage, and evaluate programs to protect and regulate natural habitats and renewable natural resources. Includes instruction in the principles of wildlife and conservation biology, environmental science, animal population surveying, natural resource economics, management techniques for various habitats, applicable law and policy, administrative and communications skills, and public relations.
USB	Nursing	A program that prepares individuals to assist in providing general nursing care under the direction of a registered nurse, physician or dentist. Includes instruction in taking patient vital signs, applying sterile dressings, patient health education, and assistance with examinations and treatment.
USB	Pharmacy	A program that prepares individuals, under the supervision of pharmacists, to prepare medications, provide medications and related assistance to patients, and manage pharmacy clinical and business operations. Includes instruction in medical and pharmaceutical terminology, principles of pharmacology and pharmaceuticals, drug identification, pharmacy laboratory procedures, prescription interpretation, patient communication and education, safety procedures, record-keeping, measurement and testing techniques, pharmacy business operations, prescription preparation, logistics and dispensing operations, and applicable standards and regulations.
USB	Plant Systems	A program that prepares individuals to operate and manage outdoor plant farms, tree and shrub nurseries, and related facilities that develop domesticated plant products for propagation, harvesting, and transplantation. Includes instruction in applicable principles of plant science, farm and business management, nursery operations, equipment operation and maintenance, safety procedures, and personnel supervision.
USB	Plumbing	A program that prepares individuals to practice as licensed plumbers by applying technical knowledge and skills to lay out, assemble, install, and maintain piping fixtures and systems for steam, natural gas, oil, hot water, heating, cooling, drainage, lubricating, sprinkling, and industrial processing systems in home and business environments. Includes instruction in source determination, water distribution, waste removal, pressure adjustment, basic physics, technical mathematics, blueprint reading, pipe installation, pumps, welding and soldering, plumbing inspection, and applicable codes and standards.
USB	Programming/Software Development	A program that focuses on the general writing and implementation of generic and customized programs to drive operating systems and that generally prepares individuals to apply the methods and procedures of software design and programming to software installation and maintenance. Includes instruction in software design, low- and high-level languages and program writing; program customization and linking; prototype testing; troubleshooting; and related aspects of operating systems and networks.
USB	Protective Services	A program that prepares individuals for admission or transfer to a baccalaureate-level program in any of the fields of engineering.
USB	Radio Broadcasting Technician	A program that prepares individuals to apply technical knowledge and skills to the production of radio and television programs, and related operations, under the supervision of broadcast and studio managers, directors, editors, and producers. Includes instruction in sound, lighting, and camera operation and maintenance; power and feed control; studio operations; production preparation; broadcast engineering; related computer applications; and specialized applications such as news, entertainment, live talk, sports, commercials, and taping.
USB	Robotics	A program that prepares individuals to apply technical knowledge and skills to the production of radio and television programs, and related operations, under the supervision of broadcast and studio managers, directors, editors, and producers. Includes instruction in sound, lighting, and camera operation and maintenance; power and feed control; studio operations; production preparation; broadcast engineering; related computer applications; and specialized applications such as news, entertainment, live talk, sports, commercials, and taping.
USB	Surgical Technician	A program that prepares individuals, under the supervision of physicians and surgical nurses, to maintain, monitor, and enforce the sterile field and adherence to aseptic technique by preoperative, surgical team, and postoperative personnel. Includes instruction in instrument and equipment sterilization and handling, surgical supplies management, wound exposure and closure, surgical computer and robot operation and monitoring, maintenance of hemostasis, and patient and team scrubbing.

AGENCY	PROGRAM	DESCRIPTION
USBE	Television Broadcasting Technician	A program that prepares individuals to apply technical knowledge and skills to the operation and maintenance of camera and lighting equipment and the production of finished still, video, and film products under the supervision of photographers, directors, and editors. Includes instruction in equipment setup and maintenance; lighting; power supplies; studio and film set tasks such as camera operator, grip, and best boy; plate and negative handling and development; laboratory procedures; and digital software applications.
USBE	Therapeutic Rehabilitation/ Exercise	A program of study that prepares individuals to assume roles as health/wellness professionals in private business and industry, community organizations, and health care settings. Includes instruction in personal health, community health and welfare, nutrition, epidemiology, disease prevention, fitness and exercise, and health behaviors.
USBE	Web Development and Administration	A program that prepares individuals to develop and maintain web servers and the hosted web pages at one or a group of web sites, and to function as designated webmasters. Includes instruction in computer systems and networks, server installation and maintenance, web page design and editing, information resources management, web policy and procedures, Internet applications of information systems security, user interfacing and usability research, and relevant management and communications skills.
USBE	Welding	A program that prepares individuals to apply technical knowledge and skills to join or cut metal surfaces. Includes instruction in arc welding, resistance welding, brazing and soldering, cutting, high-energy beam welding and cutting, solid state welding, ferrous and non-ferrous materials, oxidation-reduction reactions, welding metallurgy, welding processes and heat treating, structural design, safety, and applicable codes and standards.
USHE	Accounting	A program that prepares individuals to practice the profession of accounting and to perform related business functions. Includes instruction in accounting principles and theory, financial accounting, managerial accounting, cost accounting, budget control, tax accounting, legal aspects of accounting, auditing, reporting procedures, statement analysis, planning and consulting, business information systems, accounting research methods, professional standards and ethics, and applications to specific for-profit, public, and non-profit organizations.
USHE	Administrative Information Management	A program that prepares individuals to support business information operations by using computer equipment to enter, process, and retrieve data for a wide variety of administrative purposes. Includes instruction in using basic business software and hardware, business computer networking, principles of desktop publishing, preparing mass mailings, compiling and editing spreadsheets, list maintenance, preparing tables and graphs, receipt control, and preparing business performance reports.
USHE	Administrative Office Specialist	A program that generally prepares individuals to perform the duties of administrative assistants and/or secretaries and stenographers. Includes instruction in business communications, principles of business law, word processing and data entry, office machines operation and maintenance, office procedures, public relations, secretarial accounting, filing systems and records management, and report preparation.
USHE	Aerospace Technology	A program that prepares individuals to apply technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue fixed wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to sit for the FAA commercial and airline aircrew examinations.
USHE	Agribusiness	A program that prepares individuals to manage agricultural businesses and agriculturally related operations within diversified corporations. Includes instruction in agriculture, agricultural specialization, business management, accounting, finance, marketing, planning, human resources management, and other managerial responsibilities.
USHE	Agricultural Machinery Technology	A program that generally prepares individuals to sell, select, and service agricultural or agribusiness technical equipment and facilities, including computers, specialized software, power units, machinery, equipment structures, and utilities. Includes instruction in agricultural power systems, planning and selecting materials for the construction of support facilities, mechanical practices associated with irrigation and water conservation, erosion control, and agricultural data processing systems.
USHE	Agriculture: Livestock Farm Management	A program that prepares individuals to select, breed, care for, process, and market livestock and small farm animals. Includes instruction in basic animal science, animal nutrition, and animal health as applied to various species and breeds; design and operation of housing, feeding, and processing facilities; and related issues of safety, applicable regulations, logistics, and supply.
USHE	Aircraft Maintenance Technician - Airframe and Powerplant	A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all aircraft components other than engines, propellers, avionics, and instruments. Includes instruction in layout and fabrication of sheet metal, fabric, wood, and other materials into structural members, parts, and fittings, and replacement of damaged or worn parts such as control cables and hydraulic units.

AGENCY	PROGRAM	DESCRIPTION
USHE	Apprenticeship	A program that prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair electric apparatus and systems such as residential, commercial, and industrial electric-power wiring; and DC and AC motors, controls, and electrical distribution panels. Includes instruction in the principles of electronics and electrical systems, wiring, power transmission, safety, industrial and household appliances, job estimation, electrical testing and inspection, and applicable codes and standards.
USHE	Archaeological Technician	A program that focuses on the systematic study of extinct societies, and the past of living societies, via the excavation, analysis and interpretation of their artifactual, human, and associated remains. Includes instruction in archeological theory, field methods, dating methods, conservation and museum studies, cultural and physical evolution, and the study of specific selected past cultures.
USHE	Architectural Technology	A program that prepares individuals to assist architects in developing plans and related documentation and in performing architectural office services. Includes instruction in architectural drafting, computer-assisted drafting and design, construction methods and materials, environmental systems, building codes and standards, structural principles, cost estimation, planning documentation, visual communication skills, display production, and architectural office management.
USHE	Art and Visual Communications	A program in the applied visual arts that focuses on the general principles and techniques for effectively communicating ideas and information, and packaging products, in digital and other formats to business and consumer audiences, and that may prepare individuals in any of the applied art media.
USHE	Automotive Technology	A program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing, manufacturing and testing self-propelled ground vehicles and their systems. Includes instruction in vehicular systems technology, design and development testing, prototype and operational testing, inspection and maintenance procedures, instrument calibration, test equipment operation and maintenance, and report preparation.
USHE	Aviation Dispatch	A program that prepares individuals to apply technical knowledge and skills to air-traffic management and control, usually with additional training at the FAA Flight Control Center in a cooperative education program. Includes instruction in flight control, the use of radar and electronic scanning devices, plotting of flights, radio communication, interpretation of weather conditions affecting flights, flight instrumentation used by pilots, and maintenance of flight-control center or control-tower log books.
USHE	Aviation Science	A program that prepares individuals to apply technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue fixed wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to sit for the FAA commercial and airline aircrew examinations.
USHE	Biotechnician Training Program	A program that prepares individuals to apply scientific principles and technical skills in support of biologists and biotechnologists in research, industrial, and government settings. Includes instruction in fermentation technology, cell culturing, protein purification, biologic synthesis, assaying and testing, quality control, industrial microbiology, bioprocessing, chromatography and bioseparation, genetic technology, laboratory and hazardous materials safety, and computer applications.
USHE	Biotechnology	A program that prepares individuals to apply scientific principles and technical skills in support of biologists and biotechnologists in research, industrial, and government settings. Includes instruction in fermentation technology, cell culturing, protein purification, biologic synthesis, assaying and testing, quality control, industrial microbiology, bioprocessing, chromatography and bioseparation, genetic technology, laboratory and hazardous materials safety, and computer applications.
USHE	Brick Mason Technology	A program that prepares individuals to apply technical knowledge and skills in the laying and/or setting of exterior brick, concrete block, hard tile, marble and related materials, using trowels, levels, hammers, chisels, and other hand tools. Includes instruction in technical mathematics, blueprint reading, structural masonry, decorative masonry, foundations, reinforcement, mortar preparation, cutting and finishing, and applicable codes and standards.
USHE	Building Construction and Construction Management	A program that generally prepares individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties. May include instruction in masonry, carpentry, electrical and power transmission installation, building/construction finishing, management, inspection and other construction-related applications.
USHE	Building Construction and Management	A program that generally prepares individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties. May include instruction in masonry, carpentry, electrical and power transmission installation, building/construction finishing, management, inspection and other construction-related applications.

AGENCY	PROGRAM	DESCRIPTION
USHE	Building Inspection Technology	A program that prepares individuals to apply industrial, labor, and governmental standards and laws to the oversight of construction projects and the maintenance of completed buildings and other structures. Includes instruction in construction processes and techniques, materials analysis, occupational safety and health, industry standards, building codes and specifications, blueprint interpretation, testing equipment and procedures, communication skills, accident investigation, and documentation.
USHE	Business Administration	A program that focuses on the general study of business, including the processes of interchanging goods and services (buying, selling and producing), business organization, and accounting as used in profit-making and nonprofit public and private institutions and agencies. The programs may prepare individuals to apply business principles and techniques in various occupational settings.
USHE	Business and Personal Computing	A general program that focuses on computing, computer science, and information science and systems. Such programs are undifferentiated as to title and content and are not to be confused with specific programs in computer science, information science, or related support services.
USHE	Business/Multimedia Technologies	A program that generally prepares individuals to perform the duties of administrative assistants and/or secretaries and stenographers. Includes instruction in business communications, principles of business law, word processing and data entry, office machines operation and maintenance, office procedures, public relations, secretarial accounting, filing systems and records management, and report preparation.
USHE	Cabinetmaking and Furniture Construction	A program that prepares individuals to apply technical knowledge and skills to set up, operate and repair industrial woodworking machinery, and to use such machinery to design and fabricate wooden components and complete articles.
USHE	Cabinetry & Architectural Woodwork	A program that prepares individuals to apply technical knowledge and skills to set up, operate and repair industrial woodworking machinery, and to use such machinery to design and fabricate wooden components and complete articles.
USHE	CAD-CAM Technology	A program that prepares individuals to apply technical skills and advanced computer software and hardware to the creation of graphic representations and simulations in support of engineering projects. Includes instruction in engineering graphics, two-dimensional and three-dimensional engineering design, solids modeling, engineering animation, computer-aided drafting (CAD), computer-aided design (CADD), and auto-CAD techniques.
USHE	Carpentry Technology	A program that prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. Includes instruction in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.
USHE	Cement Mason	A program that prepares individuals to prepare, construct, and finish buildings, components, and related structures using compound masonry mixtures of stone, gravel, sand, cement, and water. Includes instruction in site preparation, applied mathematics, mixing formulas and applications, job estimation, concrete design, finishing techniques, mold preparation, reinforcement installation, site safety, and equipment operation and maintenance.
USHE	Certified Nurse Assistant	A program that prepares individuals to perform routine nursing-related services to patients in hospitals or long-term care facilities, under the training and supervision of a registered nurse or licensed practical nurse.
USHE	Chemical Engineering	A program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems employing chemical processes, such as chemical reactors, kinetic systems, electrochemical systems, energy conservation processes, heat and mass transfer systems, and separation processes; and the applied analysis of chemical problems such as corrosion, particle abrasion, energy loss, pollution, and fluid mechanics.
USHE	Chemical Technician	A program that prepares individuals to apply scientific principles and technical skills in support of chemical and biochemical research and industrial operations. Includes instruction in principles of chemistry and biochemistry, technical mathematics, computer applications, radiochemistry, industrial biochemistry, chemical instrumentation, physical chemistry, laboratory research methods, industrial processing methods and equipment, and test equipment operation and maintenance.
USHE	Chemical Technician	A program that prepares individuals to apply scientific principles and technical skills in support of chemical and biochemical research and industrial operations. Includes instruction in principles of chemistry and biochemistry, technical mathematics, computer applications, radiochemistry, industrial biochemistry, chemical instrumentation, physical chemistry, laboratory research methods, industrial processing methods and equipment, and test equipment operation and maintenance.
USHE	Civil Drafting/CAD	A program that prepares individuals to apply technical knowledge and skills to develop working drawing and electronic simulations in support of civil engineers, geological engineers, and related professionals. Includes instruction in basic civil engineering principles, geological and seismographic mapping, machine drafting, computer-aided drafting (CAD), pipe drafting, survey interpretation, and blueprint reading.

AGENCY	PROGRAM	DESCRIPTION
USHE	Civil/Environmental Engineering	A program that generally prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of structural, load-bearing, material moving, transportation, water resource, and material control systems; and environmental safety measures.
USHE	Clinical Lab Assistant	A program that prepares individuals, under the supervision of physicians or laboratory scientists or technologists, to perform waived testing procedures (Clinical Laboratory Improvement Amendments of 1988), phlebotomy, and other duties in support of laboratory teams. Includes instruction in clinical procedures, various laboratory tests, laboratory mathematics, computer technology, equipment operation and maintenance, sterilization and safety, communications skills, and interpersonal skills.
USHE	Commercial Driver License	A program that prepares individuals to successfully complete their commercial driver licensing
USHE	Commercial Fixed Wing	A program that prepares individuals to apply technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue fixed wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to sit for the FAA commercial and airline aircrew examinations.
USHE	Commercial Foods Certificate	A program that focuses on the general study of the cooking and related culinary arts, and that may prepare individuals for a variety of jobs within the food service industry. Includes instruction in food preparation, cooking techniques, equipment operation and maintenance, sanitation and safety, communication skills, applicable regulations, and principles of food service management.
USHE	Commercial Rotor Wing	A program that prepares individuals to apply technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and rescue fixed wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft. Programs may qualify individuals to sit for the FAA commercial and airline aircrew examinations.
USHE	Computer Engineering	A program that generally prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of computer hardware and software systems and related equipment and facilities; and the analysis of specific problems of computer applications to various tasks.
USHE	Computer Forensics	A program focusing on the principles and techniques used to identify, search, seize and analyze digital media and to conduct cyber investigations against criminal and terrorist activity. Includes instruction in computer boot processes and drives, jumper setting, file access and reconstruction, hacking, network systems, cryptography, programming, investigative techniques, forensic imagery, web-based investigation methods, cyberterrorism, and applicable laws and administrative procedures.
USHE	Computer Networking	A program that prepares individuals to oversee and regulate the computer system and performance requirements of an entire organization or network of satellite users. Includes instruction in performance balancing; redundancy; local area (LAN) and wide area (WAN) network management; system migration and upgrading; outage control; problem diagnosis and troubleshooting; and system maintenance, budgeting, and management.
USHE	Computer Science	A program that focuses on computer theory, computing problems and solutions, and the design of computer systems and user interfaces from a scientific perspective. Includes instruction in the principles of computational science, computer development and programming, and applications to a variety of end-use situations.
USHE	Computer Support Specialist	The Computer Support Specialist Program covers system assembly, computer repair, troubleshooting skills, network support, customer service, and software installation.
USHE	Construction Craft Laborer Technology	A program that prepares individuals to apply technical knowledge and skills to residential and commercial building construction and remodeling. Includes instruction in construction equipment and safety; site preparation and layout; construction estimating; blueprint reading; building codes; framing; masonry; heating, ventilation, and air conditioning; electrical and mechanical systems; interior and exterior finishing; and plumbing.
USHE	Construction Management	A program that generally prepares individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties. May include instruction in masonry, carpentry, electrical and power transmission installation, building/construction finishing, management, inspection and other construction-related applications.
USHE	Construction Technology	A program that prepares individuals to apply technical knowledge and skills to residential and commercial building construction and remodeling. Includes instruction in construction equipment and safety; site preparation and layout; construction estimating; blueprint reading; building codes; framing; masonry; heating, ventilation, and air conditioning; electrical and mechanical systems; interior and exterior finishing; and plumbing.

AGENCY	PROGRAM	DESCRIPTION
USHE	Cosmetology	A program that generally prepares individuals to cut, trim, and style scalp, facial, and body hair; apply cosmetic preparations; perform manicures and pedicures; massage the head and extremities; and prepare for practice as licensed cosmetologists in specialized or full-service salons. Includes instruction in hair cutting and styling, manicuring, pedicuring, facial treatments, shampooing, chemical applications, aesthetics, shop management, sanitation and safety, customer service, and applicable professional and labor laws and regulations.
USHE	Creative Arts Entrepreneurship	A program that generally prepares individuals to perform development, marketing and management functions associated with owning and operating a business.
USHE	Criminal Justice	A program that prepares individuals to apply theories and practices of organization management and criminal justice to the administration of public law enforcement agencies and operations. Includes instruction in law enforcement history and theory, operational command leadership, administration of public police organizations, labor relations, incident response strategies, legal and regulatory responsibilities, budgeting, public relations, and organizational leadership.
USHE	Culinary Arts	A program that prepares individuals to provide professional chef and related cooking services in restaurants and other commercial food establishments. Includes instruction in recipe and menu planning, preparing and cooking of foods, supervising and training kitchen assistants, the management of food supplies and kitchen resources, aesthetics of food presentation, and familiarity or mastery of a wide variety of cuisines and culinary techniques.
USHE	Cultural Resource Management	A program that focuses on the application of cultural studies, public policy analysis, and management skills to planning, promoting, and implementing programs to preserve and protect cultural heritage sites and artifacts. Includes instruction in historical preservation and conservation, business management, policy analysis, applied economics, public relations, applied history, historical archaeology, and environmental impact studies.
USHE	Deafblind Intervener Training	The Deafblind Intervener Training Program at Utah State University provides specialized training in deafblindness that prepares students to work as interveners with individuals who are deafblind in school, home, and community settings
USHE	Dental Hygiene	A program that prepares individuals to clean teeth and apply preventive materials, provide oral health education and treatment counseling to patients, identify oral pathologies and injuries, and manage dental hygiene practices. Includes instruction in dental anatomy, microbiology, and pathology; dental hygiene theory and techniques; cleaning equipment operation and maintenance; dental materials; radiology; patient education and counseling; office management; supervised clinical training; and professional standards.
USHE	Design Engineering Technology	A program that prepares individuals to generally apply technical skills to create working drawings and computer simulations for a variety of applications. Includes instruction in specification interpretation, dimensioning techniques, drafting calculations, material estimation, technical communications, computer applications, and interpersonal communications.
USHE	Diesel Systems Technology	A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain diesel engines in vehicles such as automobiles, buses, ships, trucks, railroad locomotives, and construction equipment; as well as stationary diesel engines in electrical generators and related equipment.
USHE	Digital Communication Technology	A program that prepares individuals to apply HTML, XML, JavaScript, graphics applications, and other authoring tools to the design, editing, and publishing (launching) of documents, images, graphics, sound, and multimedia products on the World Wide Web. Includes instruction in Internet theory, web page standards and policies, elements of web page design, user interfaces, vector tools, special effects, interactive and multimedia components, search engines, navigation, morphing, e-commerce tools, and emerging web technologies.
USHE	Digital Forensics	A program focusing on the principles and techniques used to identify, search, seize and analyze digital media and to conduct cyber investigations against criminal and terrorist activity. Includes instruction in computer boot processes and drives, jumper setting, file access and reconstruction, hacking, network systems, cryptography, programming, investigative techniques, forensic imagery, web-based investigation methods, cyberterrorism, and applicable laws and administrative procedures.
USHE	Early Childhood	A program that prepares individuals to teach students ranging in age from infancy through eight years (grade three), depending on the school system or state regulations. Includes preparation to teach all relevant subject matter.
USHE	Electrical Automation & Robotics Technology	A program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using robots. Includes instruction in the principles of robotics, design and operational testing, system maintenance and repair procedures, robot computer systems and control language, specific system types and applications to specific industrial tasks, and report preparation.

AGENCY	PROGRAM	DESCRIPTION
USHE	Electrical Engineering	A program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of electrical and electronic systems and their components, including electrical power generation systems; and the analysis of problems such as superconductor, wave propagation, energy storage and retrieval, and reception and amplification.
USHE	Electromechanical Assembly Technician	A program that prepares individuals to apply basic engineering principles and technical skills in support of electrical, electronics and communication engineers. Includes instruction in electrical circuitry, prototype development and testing, systems analysis and testing, systems maintenance, instrument calibration, and report preparation.
USHE	Electronics Communication Technician	A program that prepares individuals to apply basic engineering principles and technical skills in support of electrical, electronics and communication engineers. Includes instruction in electrical circuitry, prototype development and testing, systems analysis and testing, systems maintenance, instrument calibration, and report preparation.
USHE	Electronics Engineering Technician	A program that prepares individuals to apply basic engineering principles and technical skills in support of engineers engaged in developing and testing automated, servomechanical, and other electromechanical systems. Includes instruction in prototype testing, manufacturing and operational testing, systems analysis and maintenance procedures, and report preparation.
USHE	Electronics Engineering Technology	A program that prepares individuals to apply basic engineering principles and technical skills in support of electrical, electronics and communication engineers. Includes instruction in electrical circuitry, prototype development and testing, systems analysis and testing, systems maintenance, instrument calibration, and report preparation.
USHE	Electronics Technology	A program that prepares individuals to apply basic engineering principles and technical skills in support of electrical, electronics and communication engineers. Includes instruction in electrical circuitry, prototype development and testing, systems analysis and testing, systems maintenance, instrument calibration, and report preparation.
USHE	eMarketing	A program that prepares individuals to perform marketing and operational tasks associated with the provision of personal and financial services. Includes instruction in banking, marketing research, advertising, promotional campaign organization, insurance, media relations, and applicable technical and administrative skills.
USHE	Emergency Care Rescue	A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise Ambulance personnel. Includes instruction in basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.
USHE	EMT	A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise Ambulance personnel. Includes instruction in basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.
USHE	Energy Management	A program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing energy-efficient systems or monitoring energy use. Includes instruction in principles of energy conservation, instrumentation calibration, monitoring systems and test procedures, energy loss inspection procedures, energy conservation techniques, and report preparation.
USHE	Engineering Design/Drafting Technology	A program that prepares individuals to generally apply technical skills to create working drawings and computer simulations for a variety of applications. Includes instruction in specification interpretation, dimensioning techniques, drafting calculations, material estimation, technical communications, computer applications, and interpersonal communications.
USHE	Environmental Science and Sustainability	A program that focuses on the concept of sustainability from an interdisciplinary perspective. Includes instruction in sustainable development, environmental policies, ethics, ecology, landscape architecture, city and regional planning, economics, natural resources, sociology, and anthropology.
USHE	Equine Studies	A program that prepares individuals to manage the selection, breeding, care, and maintenance of work, athletic, and show horses; and to manage horse farms, stables, tracks and related equipment and operations. Includes instruction in applicable principles of animal science, care, and health; stable and track management; design and operation of facilities and equipment; and related issues such as regulations, business management; and logistics.
USHE	Facilities Maintenance Technology	A program that prepares individuals to apply technical knowledge and skills to keep a building functioning, and to service a variety of structures including commercial and industrial buildings and mobile homes. Includes instruction in the basic maintenance and repair skills required to service building systems, such as air conditioning, heating, plumbing, electrical, major appliances, and other mechanical systems.

AGENCY	PROGRAM	DESCRIPTION
USHE	Family and Human Studies	A general program that focuses on basic human developmental and behavioral characteristics of the individual within the context of the family. Includes instruction in the conditions that influence human growth and development; strategies that promote growth and development across the life span; and the study of family systems.
USHE	Farm/Ranch	A program that prepares individuals to manage farms, ranches, and similar enterprises. Includes instruction in applicable agricultural specialization, business management, accounting, taxation, capitalization, purchasing, government programs and regulations, operational planning and budgeting, contracts and negotiation, and estate planning.
USHE	Fashion Design and Merchandising	A program that prepares individuals to apply artistic principles and techniques to the professional design of commercial fashions, apparel, and accessories, and the management of fashion development projects. Includes instruction in apparel design; accessory design; the design of men's, women's, and children's wear; flat pattern design; computer-assisted design and manufacturing; concept planning; designing in specific materials; labor and cost analysis; history of fashion; fabric art and printing; and the principles of management and operations in the fashion industry.
USHE	Film Production Technician	A program that prepares individuals to communicate dramatic information, ideas, moods, and feelings through the making and producing of films and videos. Includes instruction in theory of film, film technology and equipment operation, film production, film directing, film editing, cinematographic art, film audio, techniques for making specific types of films and/or videos, media technologies, computer image making, multi-media production, and the planning and management of film/video operations.
USHE	Finance and Credit	A program that generally prepares individuals to plan, manage, and analyze the financial and monetary aspects and performance of business enterprises, banking institutions, or other organizations. Includes instruction in principles of accounting, financial instruments, capital planning, funds acquisition, asset and debt management, budgeting, financial analysis, and investments and portfolio management.
USHE	Fitness Technician	A program that prepares individuals for employment in health and fitness clubs, wellness centers, public and private recreation facilities, hospitals and corporate fitness programs where they will perform a variety of instructional and administrative duties. Includes instruction in human anatomy and physiology, fitness techniques, exercise science, personal training, nutrition, and customer service.
USHE	Game Development	A program that focuses on the design, development, and programming of interactive media entertainment, including computer and video games, virtual environments, Internet applications, and other interactive media. Includes instruction in theory of games, turn-based games, real-time games, visual and interactive design, story development, animation, simulation, and programming.
USHE	General Marketing	A program that generally prepares individuals to undertake and manage the process of developing consumer audiences and moving products from producers to consumers. Includes instruction in buyer behavior and dynamics, principle of marketing research, demand analysis, cost-volume and profit relationships, pricing theory, marketing campaign and strategic planning, market segments, advertising methods, sales operations and management, consumer relations, retailing, and applications to specific products and markets.
USHE	General Studies	It provides broad exposure to multiple disciplines and forms the basis for developing important intellectual and civic capacities.
USHE	General Technology	A program that generally prepares individuals to apply technical knowledge and skills in the adjustment, maintenance, part replacement, and repair of tools, equipment, and machines.
USHE	Geographic Information Systems	A program that focuses on the systematic study of map-making and the application of mathematical, computer, and other techniques to the analysis of large amounts of geographic data and the science of mapping geographic information. Includes instruction in cartographic theory and map projections, computer-assisted cartography, geographic information systems, map design and layout, photogrammetry, air photo interpretation, remote sensing, spatial analysis, geodesy, cartographic editing, and applications to specific industrial, commercial, research, and governmental mapping problems.
USHE	Geological Engineering	A program that prepares individuals to apply mathematical and geological principles to the analysis and evaluation of engineering problems, including the geological evaluation of construction sites, the analysis of geological forces acting on structures and systems, the analysis of potential natural resource recovery sites, and applied research on geological phenomena.
USHE	Geomatics	A program that prepares individuals to apply mathematical and scientific principles to the delineation, determination, planning and positioning of land tracts, land and water boundaries, land contours and features; and the preparation of related maps, charts and reports. Includes instruction in applied geodesy, computer graphics, photointerpretation, plane and geodetic surveying, mensuration, traversing, survey equipment operation and maintenance, instrument calibration, and basic cartography.

AGENCY	PROGRAM	DESCRIPTION
USHE	Geospatial Technology	A program that focuses on the systematic study of map-making and the application of mathematical, computer, and other techniques to the analysis of large amounts of geographic data and the science of mapping geographic information. Includes instruction in cartographic theory and map projections, computer-assisted cartography, geographic information systems, map design and layout, photogrammetry, air photo interpretation, remote sensing, spatial analysis, geodesy, cartographic editing, and applications to specific industrial, commercial, research, and governmental mapping problems.
USHE	Graphic Communications	A program that prepares individuals to apply technical knowledge and skills to the layout, design and typographic arrangement of printed and/or electronic graphic and textual products. Includes instruction in printing and lithographic equipment and operations, computer hardware and software, digital imaging, print preparation, page layout and design, desktop publishing, and applicable principles of graphic design and web page design.
USHE	Graphic Technician	A program that focuses on the software, hardware, and mathematical tools used to represent, display, and manipulate topological, two-, and three-dimensional objects on a computer screen and that prepares individuals to function as computer graphics specialists. Includes instruction in graphics software and systems; digital multimedia; graphic design; graphics devices, processors, and standards; attributes and transformations; projections; surface identification and rendering; color theory and application; and applicable geometry and algorithms.
USHE	Health Care Coding and Classification	A program that prepares individuals to perform specialized data entry, classification, and record-keeping procedures related to medical diagnostic, treatment, billing, and insurance documentation. Includes instruction in medical records and insurance software applications, basic anatomy and physiology, medical terminology, fundamentals of medical science and treatment procedures, data classification and coding, data entry skills, and regulations relating to Medicare and insurance documentation.
USHE	Health Information Specialist	A program that prepares individuals to perform the duties of special assistants and personal secretaries for practicing physicians and nurses, health care facilities and services administrators, and other health care professionals. Includes instruction in business and medical communications, medical terminology, principles of health care operations, public relations and interpersonal communications, software applications, record-keeping and filing systems, scheduling and meeting planning, applicable policy and regulations, and professional standards and ethics.
USHE	Health Information Technology	A program that prepares individuals, under the supervision of health information administrators and other professionals, to construct medical records and clinical databases, perform manipulations on retrieved data, control the security and quality of records, and supervise data entry and technical maintenance personnel. Includes instruction in clinical and biomedical science data and information requirements, database management, data coding and validation, information security, quality control, health information content and structure, medical business procedures, and legal requirements.
USHE	Health Sciences	A general, introductory, undifferentiated, or joint program in health services occupations that prepares individuals for either entry into specialized training programs or for a variety of concentrations in the allied health area. Includes instruction in the basic sciences, research and clinical procedures, and aspects of the subject matter related to various health occupations.
USHE	Heavy Civil Carpenter Technology	A program that prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. Includes instruction in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.
USHE	Heavy Equipment and Trucking	A program that prepares individuals to apply technical knowledge and skills to operate and maintain a variety of heavy equipment, such as a crawler tractors, motor graders and scrapers, shovels, rigging devices, hoists, and jacks. Includes instruction in digging, ditching, sloping, stripping, grading, and backfilling, clearing and excavating.
USHE	Homeland Security Emergency Management	Any instructional program in homeland security not listed above.
USHE	Hospitality Management	A program that prepares individuals to serve as general managers and directors of hospitality operations on a system-wide basis, including both travel arrangements and promotion and the provision of traveler facilities. Includes instruction in principles of operations in the travel and tourism, hotel and lodging facilities, food services, and recreation facilities industries; hospitality marketing strategies; hospitality planning; management and coordination of franchise and unit operations; business management; accounting and financial management; hospitality transportation and logistics; and hospitality industry policies and regulations.
USHE	HVAC	A program that prepares individuals to apply technical knowledge and skills to repair, install, service and maintain the operating condition of heating, air conditioning, and refrigeration systems. Includes instruction in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity, and electronics as they relate to the repair of heating, air conditioning and refrigeration systems.

AGENCY	PROGRAM	DESCRIPTION
USHE	Industrial Mechanics	A program that prepares individuals to apply technical knowledge and skills to repair and maintain industrial machinery and equipment such as cranes, pumps, engines and motors, pneumatic tools, conveyor systems, production machinery, marine deck machinery, and steam propulsion, refinery, and pipeline-distribution systems.
USHE	Information Systems and Technologies	A program that generally prepares individuals to provide and manage data systems and related facilities for processing and retrieving internal business information; select systems and train personnel; and respond to external data requests. Includes instruction in cost and accounting information systems, management control systems, personnel information systems, data storage and security, business systems networking, report preparation, computer facilities and equipment operation and maintenance, operator supervision and training, and management information systems policy and planning.
USHE	Interior Design Technology	A program in the applied visual arts that prepares individuals to apply artistic principles and techniques to the professional planning, designing, equipping, and furnishing of residential and commercial interior spaces. Includes instruction in computer applications, drafting, and graphic techniques; principles of interior lighting, acoustics, systems integration, and color coordination; furniture and furnishings; textiles and their finishing; the history of interior design and period styles; basic structural design; building codes and inspection regulations; and applications to office, hotel, factory, restaurant and housing design.
USHE	Ironworker Technology	A program that prepares individuals to make and install structural, ornamental, and reinforcing metal structures and supports. Includes instruction in drafting, technical mathematics, blueprint interpretation, welding, riveting, beam placement, ornamental design, structural reinforcement, crane operation, safety, and applicable codes and standards.
USHE	IT Support and Web Development	A program that focuses on the theory, organization, and process of information collection, transmission, and utilization in traditional and electronic forms. Includes instruction in information classification and organization; information storage and processing; transmission, transfer, and signaling; communications and networking; systems planning and design; human interfacing and use analysis; database development; information policy analysis; and related aspects of hardware, software, economics, social factors, and capacity.
USHE	Landscape Technology	A program that prepares individuals to manage and maintain indoor and/or outdoor ornamental and recreational plants and groundcovers and related conceptual designs established by landscape architects, interior designers, enterprise owners or managers, and individual clients. Includes instruction in applicable principles of horticulture, gardening, plant and soil irrigation and nutrition, turf maintenance, plant maintenance, equipment operation and maintenance, personnel supervision, and purchasing.
USHE	Law and Society Area Studies	This certificate consists of coursework from several areas, including sociology, political science, social work, management, and more. Students take courses from at least three different disciplines, giving them multiple perspectives on law-related issues. Courses cover subjects such as social and business ethics, constitutional law and theory, criminology, justice, and more.
USHE	Licensed Practical Nurse	A program that prepares individuals to assist in providing general nursing care under the direction of a registered nurse, physician or dentist. Includes instruction in taking patient vital signs, applying sterile dressings, patient health education, and assistance with examinations and treatment.
USHE	Machine Tool Technology	A program that prepares individuals to apply technical knowledge and skills to plan, manufacture, assemble, test, and repair parts, mechanisms, machines, and structures in which materials are cast, formed, shaped, molded, heat treated, cut, twisted, pressed, fused, stamped or worked.
USHE	Manual Machinist	A program that prepares individuals to apply technical knowledge and skills to fabricate and modify metal parts in support of other manufacturing, repair or design activities, or as an independent business.
USHE	Manufacturing Engineering	A program that prepares individuals to apply scientific and mathematical principles to the design, development, and implementation of manufacturing systems. Includes instruction in materials science and engineering, manufacturing processes, process engineering, assembly and product engineering, manufacturing systems design, and manufacturing competitiveness.
USHE	Marketing Management	A program that generally prepares individuals to undertake and manage the process of developing consumer audiences and moving products from producers to consumers. Includes instruction in buyer behavior and dynamics, principle of marketing research, demand analysis, cost-volume and profit relationships, pricing theory, marketing campaign and strategic planning, market segments, advertising methods, sales operations and management, consumer relations, retailing, and applications to specific products and markets.
USHE	Metallurgical Engineerig	A program that prepares individuals to apply mathematical and metallurgical principles to the design, development and operational evaluation of metal components of structural, load-bearing, power, transmission, and moving systems; and the analysis of engineering problems such as stress, creep, failure, alloy behavior, environmental fluctuations, stability, electromagnetic and thermodynamic characteristics, optimal manufacturing processes, and related design considerations.

AGENCY	PROGRAM	DESCRIPTION
USHE	Materials Science Engineering	A program that prepares individuals to apply mathematical and materials science principles to the design, development and operational evaluation of materials and related processes used in manufacturing in a wide variety of settings; the synthesis of new industrial materials, including marrying and bonding composites; analysis of materials requirements and specifications; and related problems of system design dependent on materials factors.
USHE	Mechanical Engineering	A program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of physical systems used in manufacturing and end-product systems used for specific uses, including machine tools, jigs and other manufacturing equipment; stationary power units and appliances; engines; self-propelled vehicles; housings and containers; hydraulic and electric systems for controlling movement; and the integration of computers and remote control with operating systems.
USHE	Mechatronics Technology	A program that prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of computer controlled electro-mechanical systems and products with embedded electronics, sensors, and actuators; and which includes, but is not limited to, automata, robots and automation systems. Includes instruction in mechanical engineering, electronic and electrical engineering, computer and software engineering, and control engineering.
USHE	Media Music	A program that focuses on the creative aspects of the blending of music and technology; and that prepares individuals to apply technical knowledge and skills to the composition, recording, synthesis, and performance of music; audio-visual production; scoring for film and multimedia; and software and multimedia development. Includes instruction in music theory, music history, composition, acoustics, recording technology, computer composition, electronic music synthesis, technology-based performance, 3D sound and spatial audio, and music business and law.
USHE	Media Production	A program that focuses on the methods and techniques for reporting, producing, and delivering news and news programs via radio, television, and video/film media; and that prepares individuals to be professional broadcast journalists, editors, producers, directors, and managers. Includes instruction in the principles of broadcast technology; broadcast reporting; on- and off-camera and microphone procedures and techniques; program, sound, and video/film editing; program design and production; media law and policy; and professional standards and ethics.
USHE	Medical Assistant	A program that prepares individuals, under the supervision of physicians, to provide medical office administrative services and perform clinical duties including patient intake and care, routine diagnostic and recording procedures, pre-examination and examination assistance, and the administration of medications and first aid. Includes instruction in basic anatomy and physiology; medical terminology; medical law and ethics; patient psychology and communications; medical office procedures; and clinical diagnostic, examination, testing, and treatment procedures.
USHE	Medical Laboratory Sciences	Any instructional program in clinical/medical laboratory science and allied professions not listed above.
USHE	Medical Office Administration	A program that prepares individuals to perform the duties of special assistants and personal secretaries for practicing physicians and nurses, health care facilities and services administrators, and other health care professionals. Includes instruction in business and medical communications, medical terminology, principles of health care operations, public relations and interpersonal communications, software applications, record-keeping and filing systems, scheduling and meeting planning, applicable policy and regulations, and professional standards and ethics.
USHE	Microscopy	A program that prepares individuals to apply mathematical, scientific, and engineering principles and technical skills to manipulate matter at the atomic and molecular level (in the range of 1-100 nanometers) and to design, fabricate, and integrate nanoscale structures, devices, and systems. Includes instruction in materials science, thermodynamics, nanomaterials, nanoelectronics, and nano/micro device fabrication and testing.
USHE	MIDI	A program that prepares individuals to apply technical knowledge and skills to the production of sound recordings as finished products or as components of film/video, broadcast, live, or mixed media productions. Includes instruction in sound equipment operation and maintenance; music, dialogue, and sound effects recording; sound track editing; dubbing and mixing; sound engineering; tape, disk, and CD production; digital recording and transmission; amplification and modulation; and working with producers, editors, directors, artists, and production managers.
USHE	Mobile Application Development	Any instructional program in computer software and media applications not listed above.
USHE	Mobile Publishing	A program that prepares individuals to apply technical knowledge and skills to the layout, design and typographic arrangement of printed and/or electronic graphic and textual products. Includes instruction in printing and lithographic equipment and operations, computer hardware and software, digital imaging, print preparation, page layout and design, desktop publishing, and applicable principles of graphic design and web page design.

AGENCY	PROGRAM	DESCRIPTION
USHE	Mortuary Science	A program that generally prepares individuals for careers in the funeral service industry and for licensure as funeral service directors or morticians. Includes instruction in the basic elements of mortuary science and the business, counseling, and operational aspects of funeral service.
USHE	Motion Graphics and Visual Effects	A program that prepares individuals to use computer applications and related visual and sound imaging techniques to manipulate images and information originating as film, video, still photographs, digital copy, soundtracks, and physical objects in order to communicate messages simulating real-world content. Includes instruction in specialized camerawork and equipment operation and maintenance, image capture, computer programming, dubbing, CAD applications, and applications to specific commercial, industrial, and entertainment needs.
USHE	Motorcycle and Outdoor Power Equipment Technology	A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain motorcycles and other similar powered vehicles. Includes instruction in lubrication and cooling systems, electrical and ignition systems, carbureation, fuel systems and adjustments of moving parts.
USHE	Museum Studies	The program educates students in museum administration, collections management and care, and interpretation and exhibition skills.
USHE	Music Recording Technology	A program that prepares individuals to apply technical knowledge and skills to the production of sound recordings as finished products or as components of film/video, broadcast, live, or mixed media productions. Includes instruction in sound equipment operation and maintenance; music, dialogue, and sound effects recording; sound track editing; dubbing and mixing; sound engineering; tape, disk, and CD production; digital recording and transmission; amplification and modulation; and working with producers, editors, directors, artists, and production managers.
USHE	Nail Technology	A program that prepares individuals to shape fingernails and toenails, remove unwanted skin and blemishes, apply polish and cosmetics to nails, and function as licensed manicurists or nail technicians/specialists. Includes instruction in manicuring theory; skin anatomy; nail growth, irregularities, and diseases; sterilization and sanitation; equipment and table maintenance; cuticle, blemish, and rough skin removal; nail filing, shaping, and polishing; cream application and extremity massage; nail sculpture and design art; product storage and use; customer service; laws and regulations; and business practices.
USHE	Nanotechnology	A program that prepares individuals to apply mathematical, scientific, and engineering principles and technical skills to manipulate matter at the atomic and molecular level (in the range of 1-100 nanometers) and to design, fabricate, and integrate nanoscale structures, devices, and systems. Includes instruction in materials science, thermodynamics, nanomaterials, nanoelectronics, and nano/micro device fabrication and testing.
USHE	Network Technologies	A program that focuses on the design, implementation, and management of linked systems of computers, peripherals, and associated software to maximize efficiency and productivity, and that prepares individuals to function as network specialists and managers at various levels. Includes instruction in operating systems and applications; systems design and analysis; networking theory and solutions; types of networks; network management and control; network and flow optimization; security; configuring; and troubleshooting.
USHE	Non-destructive Testing	A program that prepares individuals to apply scientific principles and technical skills to the operation of industrial and research testing equipment using radioisotopes. Includes instruction in x-ray analysis of materials, nondestructive testing and inspection of materials, and continuous measurement of paper or metal thickness.
USHE	Nursing	A program that generally prepares individuals in the knowledge, techniques and procedures for promoting health, providing care for sick, disabled, infirmed, or other individuals or groups. Includes instruction in the administration of medication and treatments, assisting a physician during treatments and examinations, Referring patients to physicians and other health care specialists, and planning education for health maintenance.
USHE	Occupational Therapy Assistant	A program that prepares individuals, under the supervision of occupational therapists, to direct patient participation in skill-enhancing, learning, and motivational tasks; correct or diminish pathologies; and to provide direct health education and promotion services. Includes instruction in human life span development, occupational therapy principles and practice skills, treatment planning and implementation, record-keeping and documentation, patient education and intervention, activity and program direction, and assistive services management.
USHE	Office Computer Systems	A program that prepares individuals to master and use computer software programs and applications for inputting, verifying, organizing, storing, retrieving, transforming (changing, updating, and deleting), and extracting information. Includes instruction in using various operating system configurations and in types of data entry such as word processing, spreadsheets, calculators, management programs, design programs, database programs, and research programs.
USHE	Operation Management	Any instructional program in business and administration not listed above.

AGENCY	PROGRAM	DESCRIPTION
USHE	Ornamental Horticulture	A program that focuses on domesticated plants and plant materials used for decorative and recreational applications and prepares individuals to breed, grow, and utilize ornamental plant varieties for commercial and aesthetic purposes. Includes instruction in applicable plant science subjects, the environmental design and artistic aspects of horticultural product usage, and the management of horticultural operations.
USHE	Outdoor Leadership & Entrepreneur	A program that prepares individuals to develop and manage park facilities and other indoor and outdoor recreation and leisure facilities. Includes instruction in supervising support personnel, health and safety standards, public relations, and basic business and marketing principles.
USHE	Paraeducation	A program that prepares individuals to assist a teacher in regular classroom settings or in providing instruction and supervision to special student populations, such as bilingual/bicultural students, special education students, adult learners, and students learning English. Includes instruction in techniques of general classroom supervision, maintaining order, assisting with lessons and carrying out related assignments.
USHE	Paralegal Studies	A program that prepares individuals to perform research, drafting, investigatory, record-keeping and related administrative functions under the supervision of an attorney or court. Includes instruction in legal research, drafting legal documents, appraising, pleading, courthouse procedures, and legal specializations.
USHE	Paramedic	A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise Ambulance personnel. Includes instruction in basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.
USHE	Pharmacy Technician	A program that prepares individuals, under the supervision of pharmacists, to prepare medications, provide medications and related assistance to patients, and manage pharmacy clinical and business operations. Includes instruction in medical and pharmaceutical terminology, principles of pharmacology and pharmaceuticals, drug identification, pharmacy laboratory procedures, prescription interpretation, patient communication and education, safety procedures, record-keeping, measurement and testing techniques, pharmacy business operations, prescription preparation, logistics and dispensing operations, and applicable standards and regulations.
USHE	Phlebotomy	A program that prepares individuals, under the supervision of physicians and other health care professionals, to draw blood samples from patients using a variety of intrusive procedures. Includes instruction in basic vascular anatomy and physiology, blood physiology, skin puncture techniques, venipuncture, venous specimen collection and handling, safety and sanitation procedures, and applicable standards and regulations.
USHE	Physical Therapist Assistant	A program that prepares individuals, under the supervision of a physical therapist, to implement physical therapy treatment care plans, train patients, conduct treatment interventions, use equipment, and observe and record patient progress. Includes instruction in applied anatomy and physiology, applied kinesiology, principles and procedures of physical therapy, basic neurology and orthopedics, physical therapy modalities, documentation skills, psychosocial aspects of health care, wound and injury care, electrotherapy, working with orthotics and prostheses, and personal and professional ethics.
USHE	Plumber Technology	A program that prepares individuals to practice as licensed plumbers by applying technical knowledge and skills to lay out, assemble, install, and maintain piping fixtures and systems for steam, natural gas, oil, hot water, heating, cooling, drainage, lubricating, sprinkling, and industrial processing systems in home and business environments. Includes instruction in source determination, water distribution, waster removal, pressure adjustment, basic physics, technical mathematics, blueprint reading, pipe installation, pumps, welding and soldering, plumbing inspection, and applicable codes and standards.
USHE	Practical Nursing	A program that prepares individuals to assist in providing general nursing care under the direction of a registered nurse, physician or dentist. Includes instruction in taking patient vital signs, applying sterile dressings, patient health education, and assistance with examinations and treatment.
USHE	Pre-engineering	A program that generally prepares individuals to apply mathematical and scientific principles to solve a wide variety of practical problems in industry, social organization, public works, and commerce. Includes instruction in undifferentiated and individualized programs in engineering.
USHE	Public Administration	A program that prepares individuals to serve as managers in the executive arm of local, state, and federal government and that focuses on the systematic study of executive organization and management. Includes instruction in the roles, development, and principles of public administration; the management of public policy; executive-legislative relations; public budgetary processes and financial management; administrative law; public personnel management; professional ethics; and research methods.

AGENCY	PROGRAM	DESCRIPTION
USHE	Radiologic Technology	A program that prepares individuals, under the supervision of physicians, to provide medical imaging services to patients and attending health care professionals. Includes instruction in applied anatomy and physiology, patient positioning, radiographic technique, radiation biology, safety and emergency procedures, equipment operation and maintenance, quality assurance, patient education, and medical imaging/radiologic services management.
USHE	Registered Nurse	A program that generally prepares individuals in the knowledge, techniques and procedures for promoting health, providing care for sick, disabled, infirmed, or other individuals or groups. Includes instruction in the administration of medication and treatments, assisting a physician during treatments and examinations, Referring patients to physicians and other health care specialists, and planning education for health maintenance.
USHE	Respiratory Therapy	A program that prepares individuals, under the supervision of physicians, to assist in developing respiratory care plans, administer respiratory care procedures, supervise personnel and equipment operation, maintain records, and consult with other health care team members. Includes instruction in the applied basic biomedical sciences; anatomy, physiology, and pathology of the respiratory system; clinical medicine; therapeutic procedures; clinical expressions; data collection and record-keeping; patient communication; equipment operation and maintenance; personnel supervision; and procedures for special population groups.
USHE	Small Business Management	A program that prepares individuals to develop and manage independent small businesses. Includes instruction in business administration; enterprise planning and entrepreneurship; start-up; small business operations and problems; personnel supervision; capitalization and investment; taxation; business law and regulations; e-commerce; home business operations; and applications to specific sectors, products, and services.
USHE	Stagehand Technology	A program that prepares individuals to apply artistic, technical and dramatic principles and techniques to the communication of dramatic information, ideas, moods, and feelings through technical theatre methods. Includes instruction in set design, lighting design, sound effects, theatre acoustics, scene painting, property management, costume design, and technical direction and production and use of computer applications to support these functions.
USHE	Surgical Technology	A program that prepares individuals, under the supervision of physicians and surgical nurses, to maintain, monitor, and enforce the sterile field and adherence to aseptic technique by preoperative, surgical team, and postoperative personnel. Includes instruction in instrument and equipment sterilization and handling, surgical supplies management, wound exposure and closure, surgical computer and robot operation and monitoring, maintenance of hemostasis, and patient and team scrubbing.
USHE	Surveying and Geomatics	A program that prepares individuals to apply mathematical and scientific principles to the delineation, determination, planning and positioning of land tracts, land and water boundaries, land contours and features; and the preparation of related maps, charts and reports. Includes instruction in applied geodesy, computer graphics, photointerpretation, plane and geodetic surveying, mensuration, traversing, survey equipment operation and maintenance, instrument calibration, and basic cartography.
USHE	Video or Radio Production	A program that prepares individuals to apply technical knowledge and skills to the production of radio and television programs, and related operations, under the supervision of broadcast and studio managers, directors, editors, and producers. Includes instruction in sound, lighting, and camera operation and maintenance; power and feed control; studio operations; production preparation; broadcast engineering; related computer applications; and specialized applications such as news, entertainment, live talk, sports, commercials, and taping.
USHE	Visual Art & Design	A program that prepares individuals to use computer applications and related visual and sound imaging techniques to manipulate images and information originating as film, video, still photographs, digital copy, soundtracks, and physical objects in order to communicate messages simulating real-world content. Includes instruction in specialized camerawork and equipment operation and maintenance, image capture, computer programming, dubbing, CAD applications, and applications to specific commercial, industrial, and entertainment needs.
USHE	Visual Technologies	A program that prepares individuals to apply HTML, XML, JavaScript, graphics applications, and other authoring tools to the design, editing, and publishing (launching) of documents, images, graphics, sound, and multimedia products on the World Wide Web. Includes instruction in Internet theory, web page standards and policies, elements of web page design, user interfaces, vector tools, special effects, interactive and multimedia components, search engines, navigation, morphing, e-commerce tools, and emerging web technologies.
USHE	Water & Wastewater Operations	A program that prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using water storage, waterpower, and wastewater treatment systems. Includes instruction in water storage, power and/or treatment systems and equipment; testing and inspection procedures; system maintenance procedures; and report preparation.

AGENCY	PROGRAM	DESCRIPTION
USHE	Web Graphic Design	A program that prepares individuals to apply HTML, XML, JavaScript, graphics applications, and other authoring tools to the design, editing, and publishing (launching) of documents, images, graphics, sound, and multimedia products on the World Wide Web. Includes instruction in Internet theory, web page standards and policies, elements of web page design, user interfaces, vector tools, special effects, interactive and multimedia components, search engines, navigation, morphing, e-commerce tools, and emerging web technologies.
USHE	Web Programmer	A program that prepares individuals to apply HTML, XML, JavaScript, graphics applications, and other authoring tools to the design, editing, and publishing (launching) of documents, images, graphics, sound, and multimedia products on the World Wide Web. Includes instruction in Internet theory, web page standards and policies, elements of web page design, user interfaces, vector tools, special effects, interactive and multimedia components, search engines, navigation, morphing, e-commerce tools, and emerging web technologies.
USHE	Web Site Designer	A program that prepares individuals to apply HTML, XML, JavaScript, graphics applications, and other authoring tools to the design, editing, and publishing (launching) of documents, images, graphics, sound, and multimedia products on the World Wide Web. Includes instruction in Internet theory, web page standards and policies, elements of web page design, user interfaces, vector tools, special effects, interactive and multimedia components, search engines, navigation, morphing, e-commerce tools, and emerging web technologies.
USHE	Welding Technology	A program that prepares individuals to apply technical knowledge and skills to join or cut metal surfaces. Includes instruction in arc welding, resistance welding, brazing and soldering, cutting, high-energy beam welding and cutting, solid state welding, ferrous and non-ferrous materials, oxidation-reduction reactions, welding metallurgy, welding processes and heat treating, structural design, safety, and applicable codes and standards.
USHE	Women and Gender Studies Area	The women and gender studies certificate program provides a broad base of study that addresses the intersecting issues of gender, age, race, ethnicity, class, regionalism, nationalism, and sexual identity as they affect women and men. The certificate is complementary to a wide variety of majors and gives greater depth to each student's individual studies.
UCAT	Accounting	Accounting Technicians are an organization's financial record keepers. They update and maintain accounting records, including expenditures, receipts, accounts payable and receivable, and profit and loss. They possess a wide range of skills and knowledge from full-charge bookkeepers who can maintain an entire company's books to accounting clerks who handle specific accounts. The UBATC Accounting Technician Program provides you with the business and accounting skills you need to launch your career.
UCAT	Architectural and Engineering Design	The Architectural and Engineering Design program will prepare you for a wide variety of entry-level positions working for design, mechanical, structural, machine and manufacturing firms. Upon completion of this program you will have developed basic manual and computer aided drafting skills with specialization in one of the following areas: Architectural, Civil, Mechanical, Process Pipe, Structural Steel, Basic Engineering Design using a variety of advanced software applications.
UCAT	Automated Manufacturing	Incorporating classroom instruction with shop experience while utilizing equipment and/or related training devices, this program is designed for the student who is preparing for a career in general industrial automation. Needs will be met for skilled mechanical, electrical, pneumatic, hydraulic, and refrigeration technicians. The flexibility of this program also allows specialized training for maintenance persons presently employed. The self-paced, individualized training allows the student maximum efficiency for completion.
UCAT	Automation	The Fundamentals of Automation Certificate is designed at the request of the local Oil and Gas Automation industry. Company's advisory board entities include Newfield, Anadarko, Paragon Automation, Winn-Marion, PCE and Gas Co. This program is intended to deliver the fundamental understanding of electricity and automation procedures and practices to the novice oil and gas student. This course prepares students for careers in Automation for oil and gas and to meet the demanding requirements for safety and reliability in product production.
UCAT	Automotive Technology	Students enrolled in the Automation Technology program will learn to utilize industry standard tools, manufacturing equipment, and procedures for entry-level automation. Students enrolled in the Automation Technology program learn to design, build, test, and troubleshoot automated equipment which is a directly tied to industrial processes and renewable energy to conserve. The program offers students the opportunity to apply hands-on learning to prepare them to meet industry needs in their respective fields. Students of the Automation Technology program have the opportunity to learn safety, industrial controls, mechanical and fluid power systems, HVAC/ Refrigeration, electronics, robotics, instrumentation process control, solar panels, solar thermal water systems, and other forms of alternative energy.
UCAT	Baking & Pastry	The Artisan Baking and Pastry course will teach students a brief history of baking and a solid foundation for understanding the ingredients, tools, flours, temperatures, shaping, and mixing techniques of baking. Students will learn professional techniques that can be done in a standard kitchen setting.

AGENCY	PROGRAM	DESCRIPTION
UCAT	Billing and Coding Specialist	The Billing and Coding Specialist course is designed to provide students with overall training necessary to obtain AHIMA and/or NHA Coding and Billing certifications.
UCAT	Business	Today employees are expected to excel at a wide range of tasks. Employees must be able to use the latest application software; they must interact with customers and employees in a professional manner; and they must know how to manage multiple responsibilities. The UBATC Business Basics Program provides foundational training in business and computer skills to prepare you for employment in a variety of organizational settings.
UCAT	Business Administrative Support	In today's business world, employers seek employees with specific technology skills for a wide range of positions. Individuals with focused training in document management, data entry, and computer skills are often sought after by businesses. The UBATC Business Administrative Support Program provides you with a foundation of training to prepare for employment in a skilled position.
UCAT	Business Technology	The Business Technology program provides students with the skills necessary to begin employment in a variety of business settings. Students will become proficient in business communication, office applications, and interpersonal skills. Once these fundamental skills are in place, students may specialize their studies in one of the following high demand business fields: accounting technician, administrative professional, or small business specialist.
UCAT	Cabinetmaking & Millwork	This program offers curriculum that will simulate the cabinet shop experience and allows the student to work as a team member in kitchen and other cabinet applications. The student will be trained in shop safety, machine operation, planning, estimating and design, cabinetmaking, millwork, patternmaking, jigs and fixtures, finish application, and installation. Students will be instructed in the safe use of power machines and cabinet-related chemicals (i.e., stains and lacquers).
UCAT	CAD	The Computer Aided Design Technology (CADT) program prepares students for entry-level employment as a Computer Aided Designer in one of the following areas of design drafting: Architectural, Structural, Civil, Interior Design Drafting, Manufacturing - Model Development, and Rapid Manufacturing Design. Students learn to use 2D and 3D industry specific modeling software and apply fundamental drafting techniques of geometric construction, orthographic projection, multi-views, section views, auxiliary views, dimensioning, and annotation.
UCAT	Carpentry	The Cabinetry program is designed to teach the fundamentals of the art of cabinet construction. Class members will build a cabinet of their own choice and will be instructed in the process to complete the project. The instructor reserves the right to approve projects. Class members will also be instructed in the safe use of power machines. Instruction will be "one-on-one" with students.
UCAT	CDL	Training in this program will give students professional driver training that focuses on both classroom work and in-the-vehicle training time. After over-the-road experience with professional, experienced instructors, plus lab and range time, participants master the complete range of driver competencies and become safe, comfortable, confident, law-abiding drivers. Get prepared to take the Utah State Written Exam on control skills for the Class 8 Truck/Trailer and Utah State Preventative Maintenance of tractor and trailer.
UCAT	Certified Nurse Assistant	<p>A Certified Nursing Assistant is a vital part of the nursing team. The CNA supports the patient in their activities of daily living in many different facilities. Their responsibilities include: patient hygiene, vital signs, documentation, patient transportation, and providing comfort. Students will gain the knowledge of the following:</p> <p>Basic Nursing Skills, Personal Care, Mental Health and Social Service, Care of Cognitively Impaired Residents, Basic Restorative Services and Residents Rights, Patient and Care Giver Safety, Infection Control, Vital Signs, Lifts, Positions and Transfers, Bed Making, Patient Hygiene, Basic Nutrition, Elimination, Specimen Collection, Circulation, Range of Motion, Assisting Patients with Daily Living Activities, and Complete 24 hours of hands-on clinical training in a Nursing Facility.</p>
UCAT	Civil Technology	Civil Technicians provide support to civil engineers and land surveyors. They work in an office environment, with occupational field experiences, depending on job requirements.
UCAT	CNC Machining	Students will learn the essential of setting up, operating and programming Computer Numerically Controlled Machine tools emphasizing safety in the learning process. Students will also learn the essentials of Computer Aided Manufacturing software. The program prepares students for a smooth transition into the manufacturing industry workforce and/or to upgrade skills for career advancement.
UCAT	Composite Materials Technology	The Composites Material Technology program prepares students to work in industries such as aerospace, automotive, bridge and building, marine, sporting goods, and parts assembly. This program starts with basic composites and progresses through advanced composite materials, techniques, and procedures. Here, the student will prepare themselves in an industrial setting. Those who complete this program will be prepared for entry-level employment as a Composite Technician. Students will also be taught industry standards concerning safety, composite terminology, hand lay-up, and composite inspection and repair. Our instructors are from the aerospace industry and have years of hands-on experience.

AGENCY	PROGRAM	DESCRIPTION
UCAT	Computer Programming	Computer Programming (often shortened to programming or coding) is the process of taking and original formulation of a computing problem to creating executable computer programs. Programming involves activities such as analysis, developing understanding, generating algorithms, verification of requirements of algorithms including their correctness and resources consumption, and implementation of algorithms in a target programming language. In this program we explore these pursuits, and create applications in the C++, Java, Python, and Swift programming languages to prepare one for an entry level computer programming position.
UCAT	Computer Upgrade and Repair Technician	Completion of this program will prepare you to take the CompTIA A+ certification test. A+ certification is an international industry credential that validates the knowledge of computer service technicians with the equivalent of 500 hours of hands-on experience. Major hardware and software vendors, distributors and resellers accept CompTIA A+ as the standard in foundation-level, vendor-neutral certification for service technicians. Earning CompTIA A+ certification shows that you have a broad base of knowledge and competency in core hardware and operating system technologies including installation, configuration, diagnosing, preventive maintenance and basic networking.
UCAT	Construction	The Construction Basics program introduces the student to a variety of construction skills such as: framing, plumbing, electrical, cabinetry, math, and tools and safety. Basic concepts from each of these areas are covered in preparation for working in the construction industry.
UCAT	Cosmetology	The Cosmetology program prepares students to enter the world of hair design by teaching the skills necessary for success in a competitive industry. Students learn the basics of cosmetology and the science behind the artistry. Students work on clients in a modern, well-equipped salon and are kept up-to-date with the newest techniques, products and equipment. To obtain a Cosmetology license, a student must complete the 1,600 hour program and pass the Utah State Cosmetology licensure exam.
UCAT	Culinary Arts	The Culinary Arts program provides training in the safety and sanitation practices, culinary skills and knowledge necessary to become a culinary professional. Students receive hands-on experience in many aspects of the industry such as catering, short-order cooking, banquet, and fine dining. Instruction includes: practice of proper safety and sanitation; preparation of cold foods, fresh stocks, soups, sauces, meats, poultry, seafood, grains, fruits and vegetables according to classically prescribed techniques and methods; and proper use and understanding of formulas and recipes in the preparation of basic quick breads, yeast breads, cakes, pastries, and other baked goods.
UCAT	Customer Service	Great customer service is key to the success of today's businesses, and companies rely on their employees to represent themselves and the company in a professional manner as they assist customers. Employees who have been trained in basic business skills and in accepted customer service practices can be a strong asset to a wide range of companies. The TATC Customer Service program provides foundational training in basic business practices and operations, as well as communication and interpersonal skills necessary for positive interaction on the job.
UCAT	Digital Media Multimedia	The Digital Media Multimedia program provides a strong foundation in the diverse and complex fields of graphic design, digital video, multimedia design and development. Digital Media is considered to be the communication language of the computer world. Digital Media Specialists develop the creative visuals for the demands of today's state-of-the-art communication. Students will also receive basic instruction in setting up and running an online business. NEW FOR THE 2015-2016 SCHOOL YEAR: When Digital Media students have met a minimum requirement, an iPad mini tablet, including a one year's subscription to Adobe Creative Cloud, will be available as part of their program. The cost of the tablet and its software is included as a "tool" in the Cost of Attendance estimates below. In addition, many of the required textbooks for this program are being offered as an e-book. The estimated price listed here includes print books only; students can take advantage of their new tablet and choose the less expensive e-books instead.
UCAT	Dental Assisting	The Dental Assisting program provides students the knowledge and skills needed to assist dentists in the delivery of quality oral health care. Students gain the skills to perform the comprehensive and varied duties in the dental office such as: chairside assisting, dental infection control procedures, dental laboratory procedures, and business office procedures.
UCAT	Dental Front Office	The Dental Office Administration program prepares students to assume responsibilities for clerical duties in dental offices. Students gain the knowledge and skills needed for entry-level positions managing dental offices.
UCAT	Diesel Technology	A career in this field offers relatively high wages and the challenge of skilled repair work. Students learn what today's OEM's are looking for, what today's technology is, what tomorrow's technology will be, and what that means to be a successful, skilled technician, ready to step into the industry at graduation with confidence.
UCAT	Digital Media Design	The Digital Media Graphic Design program provides the student a solid general introduction to Digital Media while offering more in-depth instruction for creating print media. Experience with both drawing by hand and computer illustration will give students the ability to produce quality materials using multiple avenues. Critiquing challenges will be introduced into a variety of courses to hone overall design skills.

AGENCY	PROGRAM	DESCRIPTION
UCAT	Digital Media Web Design	The Digital Media Web Design program provides the student a solid general introduction to Digital Media while offering more in-depth instruction in designing and creating web sites. It will prepare students to build attractive and user-friendly web sites to communicate business, personal, or educational information on the internet. This certificate will cover how to determine necessary elements for a web site to function well while maintaining its aesthetic quality. The student will learn how to use computer programs to create, edit, or revise graphics and animations for use in web sites.
UCAT	Drafting	Students will receive hands-on training to become an entry-level computer drafter. Students can choose from a variety of emphasis areas depending on interest and skill level: Architectural Design, Civil Design, Computer Aided Design, Computer Graphics, Electronics, Mechanical Design, Process Pipe, Structural Steel, etc. Students are provided workstations with equipment and software to gain the skills needed to secure employment.
UCAT	Electrician Apprentice	Electricians bring electricity into homes, businesses, and factories. They install and maintain the wiring, fuses, and other components through which electricity flows. Most Electricians learn their trade through apprenticeship programs. These programs combine paid on-the-job training with related classroom instruction. Because of the comprehensive training received, those who complete apprenticeship programs qualify to do both maintenance and construction work. The Electrician Apprentice program lasts four years, each year includes 180 hours of classroom instruction and 2,000 hours of on-the-job training. In the classroom, apprentices learn electrical theory, blueprint reading, mathematics, electrical code requirements, and safety and first aid practices.
UCAT	Electronic Engineering Technology	Electronic technicians apply their knowledge of electronic theory, science, engineering, and math to perform services in areas of research and development, manufacturing, sales, repairs, and customer service. This program prepares individuals with hands-on instruction to assemble, install, operate, maintain, troubleshoot, and repair electrical and electronic equipment used by industry and consumers. All tools and lab components are provided.
UCAT	EMT	Training in this program will prepare students for the administration of specialized emergency care and the transportation of victims of acute illness or injury to a medical facility. Students will learn roles necessary to work as part of an EMS team. Upon completion of all course requirements, students will be recommended for written and practical NREMT testing for EMT certification.
UCAT	Entrepreneurship	The Entrepreneurship I training provides the student with the basics of starting and running their own business. It will give overview of what is involved in successfully running a small business and will concentrate on the basic skills that are required of a sole proprietor, who will likely have to handle all aspects of the business. This course is intended to be short term intensive training for the beginning entrepreneur. NEW FOR THE 2015-2016 SCHOOL YEAR: When Entrepreneurship students have met a minimum requirement, a Windows tablet, including the tablet version of Microsoft Office, will be available as part of their program. The cost of the tablet and its software is included as a "tool" in the Cost of Attendance estimates below. In addition, many of the required textbooks for this program are being offered as an e-book. The estimated price listed here includes print books only; students can take advantage of their new tablet and choose the less expensive e-books instead.
UCAT	Esthetician	Students learn about the basic structure and composition of the skin, maintenance of healthy skin, and factors that influence aging of the skin. Students will also learn how to perform basic procedures in skin care such as facials, basic hair removal, basic chemical peels, makeup application, and natural nail manicures and pedicures. Advanced students perform more skin care procedures including advanced facial techniques, skin care massage, chemical peels, microdermabrasion, ultrasonic facials, LED light facials, microcurrent facials, advanced hair removal, advanced makeup, body treatments, and chemical peels. Students will also receive 99 hours of training with a multi-platform technology laser and have the opportunity to perform hands-on treatments such as photo facials, hair removal, and subablative rejuvenation.
UCAT	Executive Assistant	In today's business world, employees are expected to excel at a wide range of tasks. They must be able to use the latest computer programs including spreadsheets, databases, and word processing programs; they must be able to write well; they must interact with customers and employees in a professional manner; and they must know how to manage multiple responsibilities. The TATC Executive Assistant Program provides foundational training in business, accounting, and computer skills to prepare you for employment in a variety of organizational settings.
UCAT	Farm Business Management	The Farm/Ranch Business Management Program is an educational effort to assist farm families in achieving business and personal goals. The focus of this program is to improve the profitability of the farm/ranch business by keeping detailed production and financial records.

AGENCY	PROGRAM	DESCRIPTION
UCAT	Fashion Merchandising	<p>Designed to teach fashion business, marketing, promotion, textile fibers and construction, fashion styling, visual merchandising, and sales. Work with an excellent teaching staff who are industry professionals and emphasize hands-on instruction in an environment that allows you to explore your creativity. Fashion can be broken down into five main categories: manufacturing, designing, wholesaling, retailing, and promotion. The program prepares students to enter the job market as a retail salesperson, retail manager, visual merchandiser, personal stylist/image consultant, costume technician, or textile specialist, to list a few.</p> <p>We are constantly selling something – products, services, ideas, or an image – but the world of “sales” has changed. Customers have redefined what they expect. Professional salesmanship establishes and builds a customer-focused relationship that keeps a diverse group of clients comfortable and coming back for more. This course prepares participants to enter a career in sales and/or improve current salesmanship skills. The course content is online and class will be held for discussion and group interaction on a weekly basis. Course also includes an internship.</p>
UCAT	Fire & Rescue Services	<p>Firefighters are highly skilled, adventurous, and heroic. This hands-on program prepares students to obtain employment in one of the most rewarding fields out there. Certified and highly trained instructors provide instruction that goes far beyond the textbook. This program utilizes a state-of-the-art Fire Training Center, providing real world experiences that prove to be the highlight of the program!</p>
UCAT	Graphic Design	<p>The Computer Graphic Design certificate program provides students with the software and design skills to gain entry level employment in the graphic design industry. Students learn to apply industry standard software to create solutions to visual design problems. Instruction includes: creation of vector-based art and design, creation and retouching of digital images, and demonstration of layout and design principles. Students gain hands-on experience in creating designs for web, print and multimedia.</p>
UCAT	Health Information Technology	<p>The Health Information Technology program provides students with the technical skills and knowledge required for entry-level employment in a health care setting. Students will develop administrative office skills, learn medical billing and coding systems, and the fundamental components and functions necessary for Electronic Health Record (EHR) systems. They will learn the role of the EHR in facilitating complete documentation as well as in understanding the technical and legal infrastructure, information systems, nomenclatures/classifications, workflow, and communications used among clinics, hospitals, and patients. Students will receive hands-on experience using EHR's to schedule, manage patient accounts, and enter patient documentation.</p>
UCAT	Heavy Equipment Operator	<p>The Heavy Equipment Operator Program offers hands-on training, preparing individuals to use machinery to move construction materials, earth, and other heavy materials at construction sites, mines, and sometimes your backyard. Construction equipment operators use equipment that clears and grades land to prepare it for construction of roads, buildings, and neighborhoods. They dig trenches to lay or repair sewer and other pipelines, and they hoist heavy construction materials. Construction equipment operators also operate machinery that applies asphalt and concrete to roads and other structures.</p> <p>Operators control equipment by moving levers or foot pedals, operating switches, or turning dials. The operation of much of this equipment is becoming more complex as a result of computerized controls. Global Positioning System (GPS) technology also is being used to help with grading and leveling activities. In addition to controlling the equipment, construction equipment operators also transport, set up, and inspect the equipment, make adjustments, and perform some maintenance and minor repairs.</p> <p>Heavy equipment operators may operate excavation and loading machines equipped with scoops, shovels, or buckets that dig sand, gravel, earth, or similar materials and load it into trucks or onto conveyors. In addition to the familiar bulldozers, they operate trench excavators, road graders, and similar equipment. Sometimes they may drive and control industrial trucks or tractors equipped with forklifts or booms for lifting materials or with hitches for pulling trailers. They also may operate and maintain air compressors, pumps, and other power equipment at construction sites. Construction equipment operators who are classified as operating engineers are capable of operating several different types of construction equipment.</p>
UCAT	HVAC	<p>As an HVAC Apprentice, you will learn techniques required to install new equipment as well as skills and knowledge to repair and troubleshoot existing equipment. This program is designed with related theory and hands-on application. MATC's Apprenticeship programs are composed of two parts: (1) on-the-job training and (2) classroom instruction. The on-the-job training is provided by an outside sponsor (employer) who exposes the apprentice to practical applications in all areas of a chosen trade. The classroom related instruction is an organized form of instruction, designed to provide the apprentice with knowledge of the theoretical and technical aspects of his or her trade.</p>

AGENCY	PROGRAM	DESCRIPTION
UCAT	Industrial Automation	<p>This program is designed to prepare students for entry- level positions as skilled maintenance technicians in manufacturing plants, utilities, and laboratories. The program's hands-on approach emphasizes mechanical and electrical diagnosis and repair, precision fabrication, automation, and industrial safety. Skilled maintenance technicians who can safely perform both mechanical and electrical repairs are needed nearly everywhere. The future is bright in this field. Many employers offer continual training so that their maintenance teams can stay abreast of new technologies.</p> <p>Student Success and Industrial Safety and Essential Skills must be taken in order and prior to any other program courses (see back for list of required courses).</p>
UCAT	Information Technology	<p>The Information Technology program prepares the student with the core skills necessary for a position with a focus on designing, building, and maintaining small to medium sized networks. Training is emphasized in the areas of advanced network analysis, planning, design implementation, installation, configuration, maintenance and management of network systems. Students will then specialize in one of five areas of focus – Programming, Linux/Server, Microsoft Certified Solutions, Web-Based Database Development, or Healthcare Informatics. Hands-on labs are included in the curriculum to give students exposure to current and upcoming technology.</p>
UCAT	Interior Design	<p>Guest speakers, faculty lectures, field trips and job shadowing enhance the classroom with real life, hands-on experience. Students will learn to design and plan a variety of interior spaces. These skills can be used to design for offices, theaters, shopping malls, restaurants, hotels, schools, hospitals, and private residences. Using a variety of sources an interior designer enhances the function, safety, and aesthetics of interior spaces with the purpose of improving the quality of life. Interior designers are concerned with how colors, textures, furniture, lighting, and space work together to meet the needs of a client.</p>
UCAT	Machine Tool Technology	<p>Students will learn the essentials of machining including shop mathematics, blueprint reading, machine tool operation and selection emphasizing safety in the learning process. The program prepares students for a smooth transition into the manufacturing industry workforce and/or to upgrade skills for career advancement. The Machine Tool Program stresses hands-on individualized instruction, through project construction and classroom work.</p>
UCAT	Manufacturing Operations	<p>Manufacturing Operations students will be able to:</p> <ul style="list-style-type: none"> ⌚ Develop enhanced skill sets with immediate application in the workplace ⌚ Gain a working management perspective of: Manufacturing Processes and Lean Manufacturing, Industrial Maintenance and Total Productive Maintenance, Quality Systems/Processes and Lean Six Sigma Methodologies, Safety, OSHA Compliance and Safety Culture Development, Leadership and Supervisory Skills ⌚ Earn a Lean Six Sigma Green Belt ⌚ Earn a CPR/First Aid and AED certification ⌚ 30 Hour Hazwoper and JSA training
UCAT	Meat Services	<p>The facilities at BATC offer the best possible environment for meat training. Instruction is hands-on and individualized to meet the occupational goals of each student. Topics include knife care, inspection, sanitation, equipment, wholesale, custom cutting, retail, pricing, cured and smoked meats, ground meats, beef, pork, poultry, fish/seafood, meat preparation, and harvesting.</p> <p>Students will gain knowledge and skills regarding the retail atmosphere, which include customer service, stocking cases, inventory control, product rotation, and minimizing waste. This program is the only one of its kind in the Western US and graduates are highly sought after for employment.</p>
UCAT	Media Design	<p>Media design is considered to be the communication language of the computer world. Media design specialists develop the visuals needed for communication. The Internet and print materials would be very plain without the creative abilities of media design specialists. The Media Design Program provides a strong foundation in the diverse and complex fields of graphic design, digital video, multimedia design, and Internet development. Students will work with an excellent teaching staff who will provide hands-on instruction.</p>
UCAT	Medical Assistant	<p>The Medical Assistant Program consists of two parts: Part 1, Medical Assistant Class and Lab Training (720 hours) This program will train students to perform administrative and clinical tasks to keep the medical office running smoothly. Students will learn all aspects of the clinical office including: Taking and recording medical histories, Taking and recording vital signs, Explaining treatment procedures to patients, Preparing patients for examinations, Assisting physicians during examinations, Preparing medical instruments. In addition to working with the physician, students will learn some front office skills including: Office reception skills, Scheduling, Billing, Insurance, Medical Coding. Students will also be certified in CPR and First Aid. Part 2, Medical Assistant Externship Training (180 hours) This program includes a mandatory externship where a students will work under the supervision of a physician in a medical setting. They will observe as well as assist in daily tasks. Students will arrange their own externship site in coordination with the program instructor.</p>

AGENCY	PROGRAM	DESCRIPTION
UCAT	Medical Billing and Coding	This program will train students to properly locate, document, and validate appropriate diagnostic and procedure codes using the current ICD-9-CM/ICD-10-CM, CPT, and HCPCS coding manuals for professional services. Proper billing, insurance claim preparation, and reimbursement policies will be taught as part of this program. Students will also gain knowledge of medico legal and ethical responsibilities, as well as anatomy and medical terminology. Students completing this program will be able to apply for employment opportunities in doctor's offices, clinics, nursing homes, hospitals, labs, public health facilities and insurance agencies. Students will be prepared to test for the Certified Professional Coder (CPC) examination with the American Academy of Professional Coders (AAPC). Students that successfully pass the examinations will be nationally certified as medical coders with the AAPC. • The 1,100-hour Medical Billing and Coding Program enables students to apply their MATC certificate towards an Associates of Applied Science (AAS) Degree in Technology at the Utah Valley University (UVU).
UCAT	Medical Clinical Assistant	The Medical Clinical Assistant program will prepare you for entry level work in a doctor's office, clinic, or other health care facility. In this program students learn the theory and practice of the clinical procedures that medical assistants commonly perform in a medical office.
UCAT	Medical Office Administration	The Medical Office Administration Program consists of two parts: Part 1 MEDICAL OFFICE CLASS and LAB TRAINING (540 hours). Students will learn administrative and clerical procedures including: Reception, Appointment scheduling, Telephone triage, Organizing medical records and filing, Medico legal and ethical responsibilities, Basic billing and medical coding, Insurance claims and reimbursement policies, Collection processes for patient accounts, Accounts payable and receivable, Payroll functions, Medical Terminology, Students will also receive CPR and First Aid training. Part 2 MEDICAL OFFICE EXTERNSHIP TRAINING (90 Hours). During the externship, a student will go on-site to a medical office where they observe and assist in administration of daily tasks. Students will be responsible to arrange their own externship in coordination with the program instructor.
UCAT	Medical Office Laboratory Technician	Medical Office Laboratory Technicians specialize in conducting medical tests on specimens and samples. Lab technicians work in clinics, doctor's offices, and hospitals, performing various laboratory and clinical tasks. Clinical tasks may include taking medical histories and recording vital signs, explaining procedures, preparing patients for procedures, and assisting physicians during blood drawings and sample collections. Laboratory tasks may include preparing and analyzing specimens, performing basic tests, disposing of contaminated supplies, and sterilizing medical instruments. This program will prepare you to work as a medical office lab technician, but may also be taken as part of the Clinical Medical Assisting program.
UCAT	Metal Fabricator	Upon completion of the Welder Production program, the Metal Fabricator program provides students with the skills needed to work in a fab shop environment as a fabricator or fitter/welder. Students learn to apply their previously learned welding skills in conjunction with advanced blueprint reading, precision measuring, layout and pattern development, cutting, forming, rolling, bending and finishing processes to design and build a variety of high precision projects that require a higher skill level than production welders possess.
UCAT	Motor Sports Technician	The Motor Sports Technician program provides intense career preparation through interactive classroom instruction with hands-on application in an on-the-job environment. Students are trained in the technical knowledge and mechanical skills necessary to service, troubleshoot and repair today's sophisticated recreational, residential and commercial outdoor power equipment.
UCAT	Network Administrator	The Network Administrator program is designed to provide you with the skills to successfully manage and troubleshoot the Microsoft system environment as part of an organization's business solution. The program will prepare you to administer network and system environments based on the Microsoft Windows platform.
UCAT	Non-Destructive Inspection & Testing	The Non-Destructive Inspection (NDI) program provides students with instruction in basic inspection and testing methods for a variety of materials and products. Students learn theory and application as it pertains to detecting flaws, contamination or defects without damaging or degrading items being inspected and tested. Students gain a solid understanding of NDI principles and primary NDI testing methods. Upon successful completion of the program, students are qualified as a Level I trainees in accordance with American Society for Nondestructive Testing (ANST) Recommended Practice No. SNT-TC-1A (Personnel Qualification and Certification in Nondestructive Testing), CP189 and NAS-410. This is the first step toward certification by an employer.
UCAT	Nurse Assistant	The Nursing Assistant program prepares students to assist licensed nursing personnel in the provision of nursing care. Students learn skills, which include assisting patients with activities of daily living such as bathing, dressing, transferring, ambulating, feeding, and toileting. Successful completion of the program qualifies the student to sit for the Nurse Aide Training and Competency Evaluation Program (NATCEP) Exam. Successful completion of the NATCEP exam certifies the student as a Certified Nurse Assistant (CNA).

AGENCY	PROGRAM	DESCRIPTION
UCAT	Nursing	<p>Nursing is an art and a science. The art of nursing is embedded in human caring. The science of nursing requires specialized knowledge, critical thinking abilities, and technical skills. The practical nurse is a valuable and essential member of the health care team contributing to the planning, implementation, and evaluation of nursing care under the direction of a registered nurse, licensed physician, or other specified health care professional as defined by the Utah State Nurse Practice Act.</p> <p>Practical Nursing education at Bridgerland Applied Technology College is accomplished through continuous, sequential instruction, which progresses from simple to complex concepts and theories. Theory and skills are taught concurrently and utilized immediately, first in a simulated lab setting, then in health care facilities under the supervision of clinical faculty.</p>
UCAT	Office Clerk	In today's business world, employees are expected to excel at a wide range of tasks. They must be able to use the latest computer programs including spreadsheets, databases, and word processing programs; they must be able to write well; they must interact with customers and employees in a professional manner; and they must know how to manage multiple responsibilities. The TATC Office Clerk Program was created to be a shorter program for those looking to gain foundational training in business, workplace relations, and computer skills to prepare you for employment in a variety of organizational settings.
UCAT	Office Manager	In today's business world, employers seek employees with specific technical skills for a wide range of positions. Individuals with focused training in database applications, document management, data entry, medical office administration, and computer skills are often sought after by businesses. The TATC Office Manager Program provides you with training in business, accounting, and computer skills and also allows you to receive additional, focused training to prepare for employment in a skilled position.
UCAT	Office Professional	Build a strong foundation of skills utilizing the latest apps. Be more versatile with skills in graphic design, social media marketing and cloud computing. Develop an understanding of payroll processes and credit collections. Hone your communication and customer service skills. This program will help you truly become an Office Professional.
UCAT	Petroleum Technology	This program has been developed through training partnerships with UBATC and several oil and gas industry leaders. These leaders actively participate in the Petroleum Technology Advisory Committee, which ensures that the training is meeting the needs of the oil and gas industry. This participation provides the most current industry techniques and includes identifying training objectives, and in selecting course content and training materials.
UCAT	Pharmacy Technician	The Pharmacy Technician program prepares students to assist pharmacists in retail or hospital settings to store, prepare, and dispense medicines. Students learn the knowledge and skills to assume responsibilities which include taking inventory; ordering, labeling, storing, and distributing medicines; working with patients records and billing information; gathering information for pharmacists, and distributing printed information to patients. Students completing the program who are high school graduates or equivalent and at least 18 years of age are eligible to sit for the national Pharmacy Technician Certification Exam (PTCE). Successful completion of the program and the PTCE meets the requirements for state licensure.
UCAT	Phlebotomy	Phlebotomists are healthcare professionals who are responsible for preparing and collecting blood and other specimens for testing in hospitals, blood banks, and other healthcare facilities. During instruction, students will acquire the knowledge and skills necessary to obtain employment as a phlebotomist. Students who complete the program will be eligible to receive their (CPT) Certified Phlebotomy Technician with the National Healthcare Association.
UCAT	Plastic Injection Molding Technology	Students enrolled in the Plastic Injection Molding program will learn to utilize injection molding equipment to manufacture high quality plastic products. Students will learn molding machine operation, tool change skill, injection molding process development, and auxiliary equipment operation including molding robots. Students are provided a learning environment similar to what they will encounter in small molding shops, as well as large manufacturing firms throughout the country.
UCAT	Plumbing	Plumbers install, maintain, and repair many different types of pipe systems in both residential and commercial buildings. Students will learn to work in residential and commercial buildings assembling, installing, and repairing water, drainage, and heating systems. Students will learn to install water pipes, sinks, bathtubs, water heaters, and dishwashers. This program will satisfy the educational requirements to take the State Plumber Journeyman Exam.

AGENCY	PROGRAM	DESCRIPTION
UCAT	Police Academy	<p>Special Function/Basic Correction Officer (1st Block): The training provides an excellent foot-in-the-door approach to a law enforcement career. Areas of study include legal subjects, patrol and criminal investigation procedures, arrest control techniques, and cardiopulmonary resuscitation (CPR)/First Aid. Successful completion qualifies students to apply to work as a correctional officer in any county jail or state prison facility and become qualified to enter the Law Enforcement Officer training portion of the academy.</p> <p>Law Enforcement Officer (2nd Block): In addition to enforcing laws, police officers are primarily responsible for protecting lives and property. Upon successful completion, students will be prepared to respond to calls, conduct traffic stops, issue citations, arrest suspects, investigate domestic issues, write detailed reports, patrol, give first aid to accident victims, and more. Highly qualified instructors provide professional experiences that bring the topics to life – taking students from the traditional classroom and providing real world, hands-on training.</p> <p>Most major law enforcement departments require completion of this training before consideration for employment. Enrollment is limited to those individuals who have successfully completed the Special Function Officer Training.</p>
UCAT	Prehospital Emergency Care	This program prepares the student for work within the Emergency Medical Services or other healthcare facility as an entry level A-EMT. In addition, job seeking skills and workplace topics are covered to offer each student insight to successful workplace relations. Upon successful completion of the program, students will be eligible to acquire the National Registry certification to further their employment goals.
UCAT	Real Estate	The Real Estate Agent - Pre Licensure program provides instruction in areas of real estate to prepare students to take the Utah real estate agent test and become licensed real estate agents. Students receive instruction defined by state statute and the Utah Division of Real Estate, which includes: real estate brokerage and the law of agency, contracts and property management, real estate finance and settlement, and Utah law.
UCAT	Receptionist	Many businesses need office support and beginning secretarial staff to help complete day-to-day tasks. Employees who have been trained in basic business skills can be a strong asset to a wide range of companies. The TATC Receptionist Program provides foundational training in basic business practices and operations, preparing you for employment in a variety of organizational settings. This program focuses on developing basic keyboarding and computer skills, basic math skills, use of computer applications, and use of business machines.
UCAT	Robotics	Incorporating classroom instruction with shop experience while utilizing equipment and/or related training devices, this program is designed for the student who is preparing for a career in general industrial automation. Needs will be met for skilled mechanical, electrical, pneumatic, hydraulic, and refrigeration technicians. The flexibility of this program also allows specialized training for maintenance persons presently employed. The self-paced, individualized training allows the student maximum efficiency for completion.
UCAT	Security Technician	This program prepares student to take the CompTIA Security+ Certification exam. This certification is an international, vendor-neutral certification that verifies the students can apply knowledge to applying security concepts, tools and procedures to react to security concepts, threats and tools. This course is designed to prepare students to complete all the requirements for the CompTIA Security+ exam.
UCAT	Sheet Metal Worker Apprentice	The Sheet Metal Worker Apprentice related Instruction program is for working sheet metal apprentices. The program provides the related classroom and lab instruction while apprentices receive on-the-job training through their employers. Students learn the knowledge and skills needed to fabricate, install, and repair products made of sheet metal, including heating, ventilating, and air conditioning systems, gutters, roofing, and stainless steel kitchen and beverage equipment. Students practice hands-on skills such as reading blueprints, selecting proper materials, measuring and cutting metal, and assembling and installing products using bolts and welding techniques. Students may also apply to the Associate of Applied Science in Apprenticeship degree program at Weber State University and receive credit for completion of the Sheet Metal Worker Apprentice Related Instruction program.
UCAT	Software Development	The Software Development program provides students the opportunity to learn the important languages, environments, and tools needed for employment in areas such as web development, mobile applications, embedded systems, enterprise application development and more. Students gain the knowledge and skills needed to: develop software in languages such as C++, Java, C#, and Visual Basic; understand PC hardware; use statements, expressions, functions, and libraries; exchange data dynamically and use database design tools; and understand the development, compilation, and debugging of complete programs.

AGENCY	PROGRAM	DESCRIPTION
UCAT	Surgical Technology	Students in the Surgical Technology program learn to be allied health professionals who work in the surgical suite delivering patient care. They ensure the operating room environment is safe, the equipment functions properly, and the operative procedure is conducted under conditions that maximize patient safety. Surgical technologists are the surgical team's experts in aseptic technique. After completion of required classroom hours, the student is required to complete a non-paid clinical externship in an operating room. The Surgical Technology program is nationally accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Students completing this program are eligible to take the National Certified Surgical Technologists Exam.
UCAT	Veterinarian Assistant/Pre-Vet Tech	This program will prepare students to work at veterinary clinics or to seek further education in the veterinary field.
UCAT	Web & Mobile Development	Prepare for a rewarding career in Web & Mobile Development by learning how to plan, design, and create web content and mobile applications. Create web content using languages and software such as: HTML5, CSS3, Java Script, SQL, PHP, Ruby, Wordpress, and others. Students will also learn how to design mobile applications and responsive web pages that support both IOS and Android platforms.
UCAT	Welding	The Welding Technology program utilizes state-of-the art welding equipment and hands-on learning to prepare students for American Society of Mechanical Engineers (ASME) and American Welding Society (AWS) certifications. This program teaches welding and cutting processes for the joining of parts according to blueprints, or written specifications, in the following industrial skill areas: gas metal arc welding (GMAW), flux core arc welding (FCAW), sub arc welding (SAW), shielded metal arc welding (SMAW), oxy fuel cutting (OFC), plasma cutting (PAC), gas tungsten arc welding (GTAW), spray arc welding, robotics, air carbon arc welding, and gouging.
UCAT	Well Control	This program prepares individuals with the in-depth knowledge of well control and blowback control to safely supervise a drilling crew and ensure safety of the employees on site and as well as the safeguarding the drilling equipment.

CAMPUS-COUNTY-AREA MAPPING

AGENCY	CAMPUS	COUNTY	AREA
UCAT	BATC	Cache	Bear River
USHE	USU-MC	Cache	Bear River
USHE	USU-Price	Carbon	Castle Country
USHE	SC	Sanpete	Central Utah
UCAT	MATC	Utah	Mountainland
USHE	UVU	Utah	Mountainland
USHE	USU-Blanding	San Juan	Southeast
UCAT	SWATC	Iron	Southwest
UCAT	DXATC	Washington	Southwest
USHE	DS	Washington	Southwest
UCAT	UBATC	Duchesne	Uintah Basin
UCAT	DATC	Davis	Wasatch Front North
UCAT	OWATC	Weber	Wasatch Front North
USHE	WSU	Weber	Wasatch Front North
UCAT	TATC	Tooele	Wasatch Front South
USHE	SLCC	Salt Lake	Wasatch Front South
USHE	SLCC-SAT	Salt Lake	Wasatch Front South

COST PER STUDENT DATA

		Inputs*			Outputs		Inputs/Outputs			
	Year	Direct	Indirect	Full	FTE	Mem. Hours	Direct/ FTE	Full/FTE	Direct/ MH	Full/ MH
USBE	2015	0	0	\$140,902	37,012	33,310,513		\$3,807		\$4
	2014	0	0	\$142,913	36,887	33,198,025		\$3,874		\$4
	2013	0	0	\$135,987	34,072	30,664,672		\$3,991		\$4
	2012	0	0	\$131,560	33,676	30,308,140		\$3,907		\$4
	2011	0	0	\$128,318	33,306	29,975,696		\$3,853		\$4
USHE	2015	\$88,185	\$82,067	\$170,252	17,799	16,019,100	\$4,954	\$9,565	\$6	\$11
	2014	\$80,947	\$69,784	\$150,731	17,694	15,924,600	\$4,575	\$8,519	\$5	\$9
	2013	\$79,614	\$63,615	\$143,229	17,778	16,000,200	\$4,478	\$8,056	\$5	\$9
	2012	\$76,491	\$67,959	\$144,450	19,145	17,230,500	\$3,995	\$7,545	\$4	\$8
	2011	\$71,095	\$56,074	\$127,169	17,463	15,716,700	\$4,071	\$7,282	\$5	\$8
UCAT	2015	\$39,357	\$48,839	\$88,196	6,454	5,808,226	\$6,099	\$13,666	\$7	\$15
	2014	\$36,300	\$44,665	\$80,965	6,261	5,634,585	\$5,798	\$12,932	\$6	\$14
	2013	\$33,637	\$45,041	\$78,678	6,299	5,669,219	\$5,340	\$12,490	\$6	\$14
	2012	\$35,450	\$44,080	\$79,530	6,772	6,095,090	\$5,235	\$11,743	\$6	\$13
	2011	\$35,793	\$40,196	\$75,990	6,935	6,241,856	\$5,161	\$10,957	\$6	\$12

*Inputs are in tens of thousands

2015 OES AREA RESULTS

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
Cache County	00-0000	Total all occupations	\$9.18	\$14.02
Cache County	11-0000	Management Occupations	\$17.60	\$33.08
Cache County	13-0000	Business and Financial Operations Occupations	\$15.99	\$24.83
Cache County	15-0000	Computer and Mathematical Occupations	\$15.85	\$27.09
Cache County	17-0000	Architecture and Engineering Occupations	\$13.06	\$22.72
Cache County	19-0000	Life, Physical, and Social Science Occupations	\$14.12	\$21.68
Cache County	21-0000	Community and Social Services Occupations	\$11.38	\$18.44
Cache County	23-0000	Legal Occupations	\$17.88	\$23.48
Cache County	25-0000	Education, Training, and Library Occupations	\$11.76	\$22.36
Cache County	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$10.12	\$16.54
Cache County	29-0000	Healthcare Practitioners and Technical Occupations	\$14.97	\$25.88
Cache County	31-0000	Healthcare Support Occupations	\$9.00	\$11.14

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
Cache County	33-0000	Protective Service Occupations	\$9.43	\$16.46
Cache County	35-0000	Food Preparation and Serving-Related Occupations	\$8.16	\$8.97
Cache County	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$8.17	\$10.03
Cache County	39-0000	Personal Care and Service Occupations	\$8.20	\$9.39
Cache County	41-0000	Sales and Related Occupations	\$8.18	\$10.36
Cache County	43-0000	Office and Administrative Support Occupations	\$9.42	\$12.53
Cache County	45-0000	Farming, Fishing, and Forestry Occupations	\$8.69	\$13.24
Cache County	47-0000	Construction and Extraction Occupations	\$10.96	\$16.07
Cache County	49-0000	Installation, Maintenance, and Repair Occupations	\$10.84	\$17.62
Cache County	51-0000	Production Occupations	\$10.43	\$14.31
Cache County	53-0000	Transportation and Material Moving Occupations	\$9.37	\$14.10
Ogden-Clearfield, UT	00-0000	Total all occupations	\$9.56	\$16.12
Ogden-Clearfield, UT	11-0000	Management Occupations	\$16.62	\$35.14
Ogden-Clearfield, UT	13-0000	Business and Financial Operations Occupations	\$18.10	\$28.69
Ogden-Clearfield, UT	15-0000	Computer and Mathematical Occupations	\$19.90	\$34.88
Ogden-Clearfield, UT	17-0000	Architecture and Engineering Occupations	\$23.22	\$35.66
Ogden-Clearfield, UT	19-0000	Life, Physical, and Social Science Occupations	\$13.70	\$24.28
Ogden-Clearfield, UT	21-0000	Community and Social Services Occupations	\$11.32	\$17.18
Ogden-Clearfield, UT	23-0000	Legal Occupations	\$14.95	\$23.24
Ogden-Clearfield, UT	25-0000	Education, Training, and Library Occupations	\$11.67	\$19.67
Ogden-Clearfield, UT	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$8.63	\$16.28
Ogden-Clearfield, UT	29-0000	Healthcare Practitioners and Technical Occupations	\$17.02	\$27.60
Ogden-Clearfield, UT	31-0000	Healthcare Support Occupations	\$9.82	\$12.33
Ogden-Clearfield, UT	33-0000	Protective Service Occupations	\$10.25	\$17.74
Ogden-Clearfield, UT	35-0000	Food Preparation and Serving-Related Occupations	\$8.17	\$9.07

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
Ogden-Clearfield, UT	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$8.19	\$10.22
Ogden-Clearfield, UT	39-0000	Personal Care and Service Occupations	\$8.17	\$10.08
Ogden-Clearfield, UT	41-0000	Sales and Related Occupations	\$8.26	\$11.57
Ogden-Clearfield, UT	43-0000	Office and Administrative Support Occupations	\$9.89	\$14.26
Ogden-Clearfield, UT	45-0000	Farming, Fishing, and Forestry Occupations	\$8.86	\$10.97
Ogden-Clearfield, UT	47-0000	Construction and Extraction Occupations	\$12.59	\$17.90
Ogden-Clearfield, UT	49-0000	Installation, Maintenance, and Repair Occupations	\$13.21	\$22.39
Ogden-Clearfield, UT	51-0000	Production Occupations	\$10.79	\$16.00
Ogden-Clearfield, UT	53-0000	Transportation and Material Moving Occupations	\$9.46	\$14.65
Provo-Orem, UT	00-0000	Total all occupations	\$9.32	\$15.08
Provo-Orem, UT	11-0000	Management Occupations	\$19.38	\$38.30
Provo-Orem, UT	13-0000	Business and Financial Operations Occupations	\$16.01	\$25.59
Provo-Orem, UT	15-0000	Computer and Mathematical Occupations	\$15.84	\$31.87
Provo-Orem, UT	17-0000	Architecture and Engineering Occupations	\$20.47	\$33.37
Provo-Orem, UT	19-0000	Life, Physical, and Social Science Occupations	\$14.78	\$24.66
Provo-Orem, UT	21-0000	Community and Social Services Occupations	\$10.57	\$16.82
Provo-Orem, UT	23-0000	Legal Occupations	\$17.70	\$33.06
Provo-Orem, UT	25-0000	Education, Training, and Library Occupations	\$10.83	\$21.87
Provo-Orem, UT	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$9.97	\$17.95
Provo-Orem, UT	29-0000	Healthcare Practitioners and Technical Occupations	\$16.20	\$27.39
Provo-Orem, UT	31-0000	Healthcare Support Occupations	\$9.85	\$11.80
Provo-Orem, UT	33-0000	Protective Service Occupations	\$9.17	\$14.26
Provo-Orem, UT	35-0000	Food Preparation and Serving-Related Occupations	\$8.17	\$9.04
Provo-Orem, UT	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$8.16	\$9.52
Provo-Orem, UT	39-0000	Personal Care and Service Occupations	\$8.14	\$9.77
Provo-Orem, UT	41-0000	Sales and Related Occupations	\$8.26	\$11.59
Provo-Orem, UT	43-0000	Office and Administrative Support Occupations	\$9.66	\$13.24
Provo-Orem, UT	45-0000	Farming, Fishing, and Forestry Occupations	\$8.90	\$11.15

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
Provo-Orem, UT	47-0000	Construction and Extraction Occupations	\$12.22	\$17.63
Provo-Orem, UT	49-0000	Installation, Maintenance, and Repair Occupations	\$11.80	\$19.12
Provo-Orem, UT	51-0000	Production Occupations	\$10.06	\$14.27
Provo-Orem, UT	53-0000	Transportation and Material Moving Occupations	\$8.95	\$13.21
St. George, UT	00-0000	Total all occupations	\$9.25	\$13.97
St. George, UT	11-0000	Management Occupations	\$16.00	\$28.84
St. George, UT	13-0000	Business and Financial Operations Occupations	\$14.59	\$22.43
St. George, UT	15-0000	Computer and Mathematical Occupations	\$13.43	\$24.34
St. George, UT	17-0000	Architecture and Engineering Occupations	\$19.31	\$28.65
St. George, UT	19-0000	Life, Physical, and Social Science Occupations	\$12.64	\$21.56
St. George, UT	21-0000	Community and Social Services Occupations	\$9.83	\$16.21
St. George, UT	23-0000	Legal Occupations	\$16.60	\$22.98
St. George, UT	25-0000	Education, Training, and Library Occupations	\$9.73	\$14.05
St. George, UT	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$9.54	\$15.27
St. George, UT	29-0000	Healthcare Practitioners and Technical Occupations	\$15.77	\$26.84
St. George, UT	31-0000	Healthcare Support Occupations	\$10.10	\$11.74
St. George, UT	33-0000	Protective Service Occupations	\$10.29	\$17.99
St. George, UT	35-0000	Food Preparation and Serving-Related Occupations	\$8.16	\$9.19
St. George, UT	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$8.18	\$10.47
St. George, UT	39-0000	Personal Care and Service Occupations	\$8.22	\$10.55
St. George, UT	41-0000	Sales and Related Occupations	\$8.56	\$11.56
St. George, UT	43-0000	Office and Administrative Support Occupations	\$9.62	\$13.25
St. George, UT	45-0000	Farming, Fishing, and Forestry Occupations	\$13.43	\$14.02
St. George, UT	47-0000	Construction and Extraction Occupations	\$11.99	\$16.89
St. George, UT	49-0000	Installation, Maintenance, and Repair Occupations	\$12.02	\$17.80
St. George, UT	51-0000	Production Occupations	\$9.58	\$14.28
St. George, UT	53-0000	Transportation and Material Moving Occupations	\$9.81	\$15.59
Salt Lake City, UT	00-0000	Total all occupations	\$10.32	\$17.44
Salt Lake City, UT	11-0000	Management Occupations	\$23.36	\$42.02
Salt Lake City, UT	13-0000	Business and Financial Operations Occupations	\$17.46	\$28.10
Salt Lake City, UT	15-0000	Computer and Mathematical Occupations	\$20.62	\$35.24

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
Salt Lake City, UT	17-0000	Architecture and Engineering Occupations	\$22.20	\$33.76
Salt Lake City, UT	19-0000	Life, Physical, and Social Science Occupations	\$17.33	\$28.32
Salt Lake City, UT	21-0000	Community and Social Services Occupations	\$12.69	\$19.85
Salt Lake City, UT	23-0000	Legal Occupations	\$17.92	\$32.10
Salt Lake City, UT	25-0000	Education, Training, and Library Occupations	\$11.78	\$22.96
Salt Lake City, UT	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$10.85	\$19.63
Salt Lake City, UT	29-0000	Healthcare Practitioners and Technical Occupations	\$16.78	\$28.34
Salt Lake City, UT	31-0000	Healthcare Support Occupations	\$10.36	\$13.26
Salt Lake City, UT	33-0000	Protective Service Occupations	\$9.97	\$17.22
Salt Lake City, UT	35-0000	Food Preparation and Serving-Related Occupations	\$8.17	\$9.45
Salt Lake City, UT	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$8.16	\$10.22
Salt Lake City, UT	39-0000	Personal Care and Service Occupations	\$8.22	\$10.72
Salt Lake City, UT	41-0000	Sales and Related Occupations	\$8.67	\$13.64
Salt Lake City, UT	43-0000	Office and Administrative Support Occupations	\$11.03	\$15.17
Salt Lake City, UT	45-0000	Farming, Fishing, and Forestry Occupations	\$10.08	\$11.74
Salt Lake City, UT	47-0000	Construction and Extraction Occupations	\$13.22	\$19.00
Salt Lake City, UT	49-0000	Installation, Maintenance, and Repair Occupations	\$13.55	\$21.30
Salt Lake City, UT	51-0000	Production Occupations	\$10.45	\$15.22
Salt Lake City, UT	53-0000	Transportation and Material Moving Occupations	\$9.57	\$15.05
Wasatch Back nonmetropolitan area	00-0000	Total all occupations	\$9.75	\$14.64
Wasatch Back nonmetropolitan area	11-0000	Management Occupations	\$16.53	\$31.48
Wasatch Back nonmetropolitan area	13-0000	Business and Financial Operations Occupations	\$16.76	\$25.57
Wasatch Back nonmetropolitan area	15-0000	Computer and Mathematical Occupations	\$15.72	\$34.27
Wasatch Back nonmetropolitan area	17-0000	Architecture and Engineering Occupations	\$19.72	\$32.15
Wasatch Back nonmetropolitan area	19-0000	Life, Physical, and Social Science Occupations	\$11.53	\$18.44

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
Wasatch Back nonmetropolitan area	21-0000	Community and Social Services Occupations	\$17.94	\$25.83
Wasatch Back nonmetropolitan area	23-0000	Legal Occupations	\$16.81	\$35.72
Wasatch Back nonmetropolitan area	25-0000	Education, Training, and Library Occupations	\$11.49	\$18.03
Wasatch Back nonmetropolitan area	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$11.93	\$19.09
Wasatch Back nonmetropolitan area	29-0000	Healthcare Practitioners and Technical Occupations	\$15.74	\$28.51
Wasatch Back nonmetropolitan area	31-0000	Healthcare Support Occupations	\$10.86	\$13.78
Wasatch Back nonmetropolitan area	33-0000	Protective Service Occupations	\$11.18	\$23.67
Wasatch Back nonmetropolitan area	35-0000	Food Preparation and Serving-Related Occupations	\$8.21	\$11.10
Wasatch Back nonmetropolitan area	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$8.99	\$12.17
Wasatch Back nonmetropolitan area	39-0000	Personal Care and Service Occupations	\$8.47	\$11.38
Wasatch Back nonmetropolitan area	41-0000	Sales and Related Occupations	\$8.61	\$12.40
Wasatch Back nonmetropolitan area	43-0000	Office and Administrative Support Occupations	\$10.54	\$14.51
Wasatch Back nonmetropolitan area	47-0000	Construction and Extraction Occupations	\$12.88	\$18.07
Wasatch Back nonmetropolitan area	49-0000	Installation, Maintenance, and Repair Occupations	\$12.50	\$17.75
Wasatch Back nonmetropolitan area	51-0000	Production Occupations	\$10.33	\$14.86

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
Wasatch Back nonmetropolitan area	53-0000	Transportation and Material Moving Occupations	\$10.92	\$14.90
CENTRAL UTAH	00-0000	Total all occupations	\$8.84	\$15.16
CENTRAL UTAH	11-0000	Management Occupations	\$13.82	\$28.84
CENTRAL UTAH	13-0000	Business and Financial Operations Occupations	\$16.96	\$27.36
CENTRAL UTAH	15-0000	Computer and Mathematical Occupations	\$15.02	\$26.54
CENTRAL UTAH	17-0000	Architecture and Engineering Occupations	\$25.07	\$37.16
CENTRAL UTAH	19-0000	Life, Physical, and Social Science Occupations	\$12.42	\$19.39
CENTRAL UTAH	21-0000	Community and Social Services Occupations	\$8.93	\$13.82
CENTRAL UTAH	23-0000	Legal Occupations	\$11.59	\$19.47
CENTRAL UTAH	25-0000	Education, Training, and Library Occupations	\$9.53	\$16.07
CENTRAL UTAH	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$9.46	\$14.53
CENTRAL UTAH	29-0000	Healthcare Practitioners and Technical Occupations	\$15.29	\$25.71
CENTRAL UTAH	31-0000	Healthcare Support Occupations	\$9.17	\$11.95
CENTRAL UTAH	33-0000	Protective Service Occupations	\$10.66	\$17.43
CENTRAL UTAH	35-0000	Food Preparation and Serving-Related Occupations	\$8.15	\$8.80
CENTRAL UTAH	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$8.18	\$9.42
CENTRAL UTAH	39-0000	Personal Care and Service Occupations	\$8.14	\$10.52
CENTRAL UTAH	41-0000	Sales and Related Occupations	\$8.21	\$9.92
CENTRAL UTAH	43-0000	Office and Administrative Support Occupations	\$8.98	\$13.14
CENTRAL UTAH	45-0000	Farming, Fishing, and Forestry Occupations	\$8.57	\$12.49
CENTRAL UTAH	47-0000	Construction and Extraction Occupations	\$13.15	\$19.07
CENTRAL UTAH	49-0000	Installation, Maintenance, and Repair Occupations	\$11.77	\$18.52
CENTRAL UTAH	51-0000	Production Occupations	\$10.96	\$17.05
CENTRAL UTAH	53-0000	Transportation and Material Moving Occupations	\$11.66	\$20.30
SOUTHWEST UTAH	00-0000	Total all occupations	\$8.79	\$13.47
SOUTHWEST UTAH	11-0000	Management Occupations	\$13.56	\$27.34
SOUTHWEST UTAH	13-0000	Business and Financial Operations Occupations	\$16.71	\$24.11
SOUTHWEST UTAH	15-0000	Computer and Mathematical Occupations	\$16.74	\$29.13

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
SOUTHWEST UTAH	17-0000	Architecture and Engineering Occupations	\$11.85	\$24.71
SOUTHWEST UTAH	19-0000	Life, Physical, and Social Science Occupations	\$12.25	\$19.40
SOUTHWEST UTAH	21-0000	Community and Social Services Occupations	\$9.31	\$13.36
SOUTHWEST UTAH	23-0000	Legal Occupations	\$14.84	\$19.54
SOUTHWEST UTAH	25-0000	Education, Training, and Library Occupations	\$12.18	\$19.01
SOUTHWEST UTAH	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$8.21	\$9.23
SOUTHWEST UTAH	29-0000	Healthcare Practitioners and Technical Occupations	\$13.33	\$25.43
SOUTHWEST UTAH	31-0000	Healthcare Support Occupations	\$9.65	\$11.72
SOUTHWEST UTAH	33-0000	Protective Service Occupations	\$10.49	\$17.37
SOUTHWEST UTAH	35-0000	Food Preparation and Serving-Related Occupations	\$8.18	\$8.92
SOUTHWEST UTAH	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$8.19	\$9.44
SOUTHWEST UTAH	39-0000	Personal Care and Service Occupations	\$8.21	\$10.99
SOUTHWEST UTAH	41-0000	Sales and Related Occupations	\$8.26	\$10.19
SOUTHWEST UTAH	43-0000	Office and Administrative Support Occupations	\$8.91	\$12.76
SOUTHWEST UTAH	45-0000	Farming, Fishing, and Forestry Occupations	\$8.72	\$13.66
SOUTHWEST UTAH	47-0000	Construction and Extraction Occupations	\$11.53	\$16.17
SOUTHWEST UTAH	49-0000	Installation, Maintenance, and Repair Occupations	\$10.10	\$16.83
SOUTHWEST UTAH	51-0000	Production Occupations	\$10.41	\$14.33
SOUTHWEST UTAH	53-0000	Transportation and Material Moving Occupations	\$10.21	\$15.79
EASTERN UTAH	00-0000	Total all occupations	\$9.86	\$16.95
EASTERN UTAH	11-0000	Management Occupations	\$15.84	\$31.83
EASTERN UTAH	13-0000	Business and Financial Operations Occupations	\$15.85	\$24.60
EASTERN UTAH	15-0000	Computer and Mathematical Occupations	\$11.38	\$23.10
EASTERN UTAH	17-0000	Architecture and Engineering Occupations	\$20.60	\$33.05

AREA	SOC FAMILY	SOC TITLE	STARTING	MEDIAN
EASTERN UTAH	19-0000	Life, Physical, and Social Science Occupations	\$12.81	\$21.03
EASTERN UTAH	21-0000	Community and Social Services Occupations	\$9.97	\$16.04
EASTERN UTAH	23-0000	Legal Occupations	\$16.84	\$26.46
EASTERN UTAH	25-0000	Education, Training, and Library Occupations	\$9.63	\$16.46
EASTERN UTAH	27-0000	Arts, Design, Entertainment, Sports, and Media Occupations	\$8.75	\$13.41
EASTERN UTAH	29-0000	Healthcare Practitioners and Technical Occupations	\$14.01	\$24.36
EASTERN UTAH	31-0000	Healthcare Support Occupations	\$9.52	\$11.91
EASTERN UTAH	33-0000	Protective Service Occupations	\$8.77	\$15.49
EASTERN UTAH	35-0000	Food Preparation and Serving-Related Occupations	\$8.17	\$9.22
EASTERN UTAH	37-0000	Building and Grounds Cleaning and Maintenance Occupations	\$9.11	\$11.61
EASTERN UTAH	39-0000	Personal Care and Service Occupations	\$8.16	\$10.44
EASTERN UTAH	41-0000	Sales and Related Occupations	\$8.42	\$11.72
EASTERN UTAH	43-0000	Office and Administrative Support Occupations	\$9.73	\$14.38
EASTERN UTAH	45-0000	Farming, Fishing, and Forestry Occupations	\$8.23	\$8.99
EASTERN UTAH	47-0000	Construction and Extraction Occupations	\$14.89	\$21.81
EASTERN UTAH	49-0000	Installation, Maintenance, and Repair Occupations	\$13.17	\$21.49
EASTERN UTAH	51-0000	Production Occupations	\$12.75	\$23.09
EASTERN UTAH	53-0000	Transportation and Material Moving Occupations	\$12.17	\$20.82



CAREER AND TECHNICAL EDUCATION IN UTAH

