UTAH SYSTEM OF
HIGHER EDUCATION
Building a Stronger State of Minds

January 13, 2016

MEMORANDUM

TO: State Board of Regents

FROM: David L. Buhler

SUBJECT: USHE – 2016-2017 Market Demand Programs Initiatives

Background

The Utah System of Higher Education is the primary provider of talent for Utah's workforce and economy. This includes short-term skill training for a certificate, associate degree, baccalaureate, and graduate programs. The Market Demand portion of the Board of Regents' budget request for 2016-17 is intended to further enable USHE institutions to meet the educational needs of the marketplace.

In the most recent year, Utah's two Research I universities – the University of Utah (UU) and Utah State University (USU), generated over $650 million in outside dollars for research. Recognizing the value to Utah's economy from the work conducted by the graduate programs at the state's Research 1 institutions, in 2015 the Legislature funded $4 million in on-going funds of a $10 million request to enhance the graduate missions of these two institutions.

To help provide sufficiently trained workers at a variety of levels and professional and occupational areas, the Board of Regents is requesting $10 million - $6 million for the UU and USU to complete the graduate program initiative partially funded in 2015 (with $3.6 million to the UU and $2.4 million to USU), and $4 million for the regional universities and community colleges to help meet critical market demands. (For the six non-research institutions the amounts are allocated by formula, based 50% on their share of USHE FTE students and 50% on their share of state tax funds.)

Issue

Each institution has assessed their campus needs and developed initiatives in support of the market demand budget request. The initiatives include; 1) professional and graduate program support in high demand areas; 2) research support; 3) new STEM programs; 4) health sciences program support; and 5) computer science and information technology support. The attachment provides detailed descriptions, rationale, outcomes, assessment, and budgetary plans by institution, and will be used for budget presentations, legislative budget item follow-up reports, and other requests.

THE UNIVERSITY OF UTAH   UtahStateUniversity   WEBER STATE UNIVERSITY   SUU SOUTHERN UTAH UNIVERSITY   SNOW COLLEGE   DSU DIXIE STATE UNIVERSITY   UVU UTAH VALLEY UNIVERSITY   Salt Lake Community College

Commissioner's Recommendation

The Commissioner recommends that the Regents approve the 2016-2017 Market Demand Programs Initiatives.

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David L. Buhler
Commissioner of Higher Education

DLB/GLS/BLS
Attachment

UTAH SYSTEM OF HIGHER EDUCATION 2016-2017 OPERATING BUDGET REQUEST

Market Demand Program Initiatives   **Total: $10,000,000**

Utah's economy is greatly benefitted from the work conducted by the graduate programs at the state's two Research I universities – the University of Utah (U of U) and Utah State University (USU), including receipt of over $400 million in outside dollars for research endeavors annually. In 2015 the Legislature funded $4 million on-going of a $10 million request to enhance the graduate missions of these two institutions. The Board of Regents is requesting $10 million - $6 million for the U of U and USU to complete the graduate program initiative partially funded in 2015 (with $3.6 million to the U of U and $2.4 million to USU), and $4 million for the regional universities and community colleges to help meet critical market demands (allocated by formula, based 50% on their share of USHE FTE students and 50% on their share of state tax funds).

UNIVERSITY OF UTAH   **$3,600,000 (36.00%)**

Professional & Graduate Program Growth – High Demand Areas $1,500,000

Description – The University of Utah educates many of the students who receive advanced professional and graduate degrees in fields, which are in high demand by Utah businesses and industries. At the present time we cannot meet the demand for admission to many of these programs. The primary purpose of this funding is to allow the University to hire additional faculty to increase the number of students who can be admitted into fields like nursing and other health science fields, information systems, media arts, and other STEM fields.

Assessment – Success will be measured by recruitment of faculty in these areas and the increased number of qualified students who can be recruited and successfully graduated in these strategic, high demand professional fields.

Budgetary Plan –	Salaries, Wages & Benefits	$1,200,000
	Operating Expense	$ 300,000
	Total	$1,500,000

Research Excellence $1,250,000

Description – Funding will also be used to recruit and retain faculty in departments where we have PhD/Research programs that are of strategic importance to Utah's future. As Utah's only university currently classified as a very high research institution, it is important that we not only maintain the quality of our research faculty and education program as compared to peer institutions, but that we strive to increase our prestige and research funding. To accomplish this, we must recruit and be able to retain top faculty in strategic research areas. The Transformative Excellence Program (TEP) allows us to build strength in strategic interdisciplinary areas that will enhance our preeminence. These faculty are the key to successful education of future researchers and faculty who will carry out the discoveries needed for innovation and commercialization.

Assessment – We will measure the success of this funding by hiring and retaining key faculty in strategic research areas. Increases in grant funding as well as attracting top graduate students will also measure success.

Budgetary Plan – Salaries, Wages & Benefits $1,000,000
Operating Expense $ 250,000
Total $1,250,000

Graduate Program Expansion and Support $500,000

Description – As a research institution, the U's mission includes educating future faculty. Top graduate students in Ph.D. programs receive graduate stipends as part of their participation in Ph.D. education. The resources to fund these stipends have not kept pace with amounts needed to match the national average for Ph.D. students. This leaves us at a disadvantage for recruiting the caliber of graduate students we need both to maintain the prestige of our programs and to retain quality faculty. We need to be able to recruit talented students and expand student recruitment in key areas, such as STEM, to meet needs of the workforce including the next generation of STEM faculty. The additional graduate students in key areas will also help us to be able to increase the support for undergraduate students as these graduate students fulfill the teaching part of their training.

Assessment – Success will be measured by our ability to recruit top student talent for key Ph.D. programs as well as student graduation and job placement.

Budgetary Plan – Salaries, Wages & Benefits $500,000

Research Information and Database – Library $250,000

Description – Ready access to scientific databases and research publications is critical to the success of faculty and graduate students. As libraries transform the way they provide access to information, there is a need to upgrade equipment as well as to support subscriptions to online databases.

Assessment – Success will be evaluated by upgraded tools for accessing information as well as increased use by faculty and graduate students.

Budgetary Plan – Operating Expense $250,000

Research Systems Support – Core Facilities $100,000

Description – The University of Utah offers a number of core facilities that provide advanced technologies and equipment to researchers. The goal of cores is to make technology and expertise available to all faculty members and students. This allows institutional funds to be used efficiently across the research mission. Funding for support personnel, including directors with advanced training, will enhance the effectiveness of core services and operations.

Assessment – Success will be measured by increased usage of core facilities by research faculty and students.

Budgetary Plan –   Salary, Wages & Benefits $100,000

UTAH STATE UNIVERSITY $2,400,000 (24.00%)

Background — *HigherEdUtah2020* suggests that by 2020, in Utah alone, an additional 28,000 individuals with graduate degrees will be needed in the workforce. Indeed, the Commission on the Future of Graduate Education in the United States estimates that the "number of jobs that require graduate degrees is expected to grow by 2.5 million between 2008 and 2018," with an 18% increase in those requiring doctorates and a 17% increase in those requiring master's degrees. This demand, coupled with the fact that 2015 was a second consecutive record year for research productivity at Utah State University, means that the optimal time for investment is now. Utah State University is in a unique position to foster and to benefit from the expansion of graduate training. USU is making extraordinary advances in research, yet the degree-seeking graduate enrollment is currently at 10% of the university total. _USU's level of 10% is far below that of our peer institutions, and that of the University of Utah, which sit typically at 20+%._ Expanding the scope and bolstering the quality of our graduate programs will enhance the status of Utah State University, build the reputations of our departments and colleges, and contribute to an exceptionally well-trained Utah workforce. Core initiatives for this investment are as follows:

New Faculty Lines to Expand Graduate Education $1,500,000

Description – Funding will be used to recruit and hire world-class faculty who will be directly tied to demand-driven graduate programs and will result in growth in the number and quality of graduate student applications and graduate student enrollment. Prioritization of hires in targeted areas will be done after careful consultation with external stakeholders, including outside advisory boards and the USU Board of Trustees. With several new graduate programs actively under development, this funding will provide a catalyst for growth across several of Utah's high priority areas.

Examples of these programs include, but are not limited to:

- **Food Science MS & PhD programs**. With a burgeoning world population, food corporations the world over are anxious to hire master's and PhD graduates in food science. USU's department of Nutrition, Dietetics and Food Sciences delivers graduates ready for hire, and virtually all food science graduates are employed upon graduation. Median salary for master's and PhD graduates working in the field is $92,000 and $105,000, respectively. Thirty-eight percent of graduates are employed in the food/beverage-manufacturing sector, and 22% are employed in the food ingredient-manufacturing sector.

- **Master of Human Resources Professional program**. Average demand for human

resources professionals is higher than the national job growth average for all other professions. Salaries in this growing field are highly competitive; according to the 2014-15 *Occupational Outlook Handbook* from the U.S. Bureau of Labor Statistics (BLS), the median national annual salary for a human resources manager is $99,720. The BLS reports that HR job opportunities should be best in the management of companies and enterprises. USU's Master of Human Resources trains students in management skills and in attracting and developing a productive workforce in today's competitive business environment

- **Master of Public Health Professional program (new).** Healthcare in the U.S. is a major industry, with a growing need to provide quality services to an aging population. Associates for Public Health Education estimates 250,000 more public health workers will be needed by 2020. USU is designing and implementing a new Master's of Public Health degree to meet the demand of this expanding industry. Average salary for MPH graduates in the industry is $68,000 per year. Possible positions of employment may include health services administration, biostatistics, epidemiology, health education, environmental health, clinical research, and many others.

- **Aerospace Engineering PhD (new).** A major shift occurred in the field of aerospace engineering when the U.S. government moved toward commercial space services for most near-earth projects, and a large number of industry companies, such as Lockheed Martin, Boeing and ATK, began hiring engineers, most with graduate degrees. U.S. Bureau of Labor Statistics projects a minimal growth of 7% by 2022, with significant expansion in aligned industries. According to Career Cornerstone, aerospace engineers with PhDs are being offered starting salaries above $73,000. To meet this demand, USU has launched new PhD degree program that will allow students to specialize in the design, development, testing, and maintenance of both commercial and military aircraft, spacecrafts and their components, as well as satellites and missiles.

Assessment – Increased graduate student applications, enrollments, number of graduates in high priority, demand-driven areas. Increased numbers of faculty supporting graduate students on extramural funding.

Expanding and Enhancing Graduate Student Education $650,000

(1) **Expansion of the Graduate Research Training Programs for PhD and MS Degrees** $488,500

Description – Graduate students are a critical part of a university's engine of innovation. In research-based degree programs, this workforce is limited by the number of competitive assistantships that are available to recruit and support outstanding students. Funds will be used to recruit the best students, to create nationally competitive graduate assistantships that include both research and teaching expectations, and to expand efforts to link STEM training with other fields. A primary focus of this funding will be to increase the number of students in USU's Presidential Doctoral Research Fellowship program, the X-STEM Assistantship program, and the RGS Assistantship program.

- **Presidential Doctoral Research Fellowships ($220,000).** The PDRF program provides elite-quality doctoral students with four full years of support, including tuition, as well as unmatched access to USU resources and assistance, from intensive grant-writing workshops to meet-and-greets with deans and administration. To be eligible, college-selected students must be doctoral candidates, score above the 70th percentile on the GRE exam, and have a cumulative GPA greater than 3.5.

- **X-STEM Masters Assistantships ($112,500).** These assistantships provide funding for master's students in three "non-STEM" USU colleges: Caine College of the Arts, Jon M. Huntsman School of Business, and the College of Humanities and Social Sciences. These disciplines offer approaches, tools, and perspectives that are different from those typically applied in STEM disciplines, and which provide critical context for STEM-based knowledge. College-selected candidates for X-STEM assistantships help to address this gap in knowledge by fostering cross-disciplinary exploration and learning between STEM and non-STEM experts, with great benefit to all participants.

- **RGS Assistantships ($156,000).** A primary focus of this funding will be to increase the number of PhD and Master of Science research (thesis MS) degrees across the campus. As part of our commitment to the full breath of graduate training, each assistantship will require a semester in support of the teaching mission of the university, as needed. Candidates will be selected from faculty-submitted proposals in trans-disciplinary efforts such as cross-college partnerships.

Assessment – Increased number of applications, higher quality applicants. Increased enrollment and number of graduate degrees awarded.

(2) Graduate Dissertation Enhancement Awards $90,000

Description - Graduate Dissertation Enhancement funding provides opportunity for PhD students to augment their dissertation research. This program, which is modeled after an existing NSF best practice, cannot serve as the primary source of funding for a dissertation, but instead should support a clearly defined activity that will enhance an existing body of research that comprises the core of the dissertation.

Assessment – Reduced average time to award for doctoral degrees. Increased collaboration among STEM and non-STEM researchers, evidenced by co-authored presentations and peer-reviewed publications. Increased number of publicly available datasets and publications created by graduate students.

(3) Graduate Dissertation Fellowships $71,500

Description - Completion of the dissertation can be a serious challenge for students who are working to support themselves or a family. Graduate Dissertation Fellowships relieve outstanding doctoral students from some part of their teaching or research obligations in order to provide them additional time to draft, revise, and complete their dissertations and

enter the professional workplace for which they are trained. Candidates will be selected from departmental nominations.

Assessment – Reduced average time to award for doctoral degrees.

Research Library Support $250,000

Description - The USU Merrill-Cazier Library plays a lead role in training graduate students to access research data. Graduate training is also strongly based on broad access to online published resources, as well as specialized archived resources. The university is increasingly stretched to meet these many obligations.

Assessment – Increased number of publicly available datasets and publications created by graduate students. Broadening of access to digitally accessible journals and other resources Ensuring institutional compliance with federal requirements for public access to research publications and data created by graduate students.

WEBER STATE UNIVERSITY $871,800 (8.72%)

Additional Faculty Members in Computer Science $150,000

Description – Data from the third week of Fall semester 2015 indicate that WSU's Computer Science Department has 1,220 majors. The department employs 15 faculty members, resulting in a faculty/student ratio of 81.33 to one.

Rationale – Given the demand for courses in this area—and the high market demand for graduates in the area—faculty are pushed into teaching overload. ABET accreditors and program reviewers have expressed concern about the faculty/student ratio and have encouraged the institution to hire more faculty in CS.

Outcomes – A greater number of faculty members will decrease the need for faculty overload teaching, will ensure that students have greater access to faculty, will allow faculty to engage in teaching and research necessary to sustain a department that offers both BS and MS degrees, and will bolster yet further WSU's capacity to provide well-educated employees in this high-demand area. In 2011, Utah's Department of Workforce Services determined a projected jump in CS employment of 27% between 2012 and 2018; projected graduation rates are not going to keep up with this demand. At the national level, The United States Bureau of Labor Statistics projects a growth rate in total computer-related jobs of 15% between 2012 and 2022.

Assessment – Comparative number of graduates pre and post-hiring; comparative evaluation of graduation rates; comparative analysis of post-graduate employment options; comparative salary figures for recent graduates.

Budgetary Plan –   Salaries, Wages & Benefits $150,000 (2 faculty at $75k each)

Additional Faculty Member in Radiologic Science Department $90,000

Description – Additional Faculty Member in Radiologic Science, 11 month line.

Rationale – This faculty member would assist the department in meeting the needs of outreach to rural communities and help in creating pathways for BS and MS students. Such pathways will result in a greater number of publications, graduating students, and enhance the department's ability to produce appropriately-credentialed graduates to meet market demand. The Bureau of Labor Statistics predicts employment growth of about 21 percent between 2012 and 2022 for this profession, and 41,500 new positions will need to be filled.

Outcomes – A greater number of faculty members will decrease the need for faculty overload teaching, will ensure that students have greater access to faculty, will allow faculty to engage in teaching and research necessary to sustain a department that offers both BS and MS degrees, and will bolster yet further WSU's capacity to provide well-educated employees in this high-demand area.

Assessment – Comparative number of graduates pre and post-hiring; comparative analysis of post-graduate employment options; comparative salary figures for recent graduates

Budgetary Plan –   Salaries, Wages & Benefits $90,000

Four new STEM (Science, Technology, Engineering, Math) Education Faculty and a Support Staff Member for the Center for Science and Math Education $384,120

Description – New faculty members will include two math educators, one life-science educator, and one engineering/technology educator. Supplementary salary will be needed to bring a part-time support staff member to full-time. This staff member facilitates the work of these faculty and of the Center for Science and Math Education.

Rationale – Data on Utah's college-level math preparedness are grim. In 2008, only 34% of Utah high school graduates entering in-state colleges and universities were ready to take college-level mathematics courses. Students who enroll in developmental or remedial math are less likely to complete degrees than those who are prepared to enroll, upon admission, in college-level math.

College-level math provides the foundation for many STEM degrees—degrees listed as highly desirable and highly marketable in the state of Utah.   If we are going to improve college completion rates and provide tomorrow's workforce, we need to make drastic changes in how we teach math and science in elementary and secondary schools. In other words, at the university level we need to do a better job preparing future teachers of science, math, and technology. The addition of STEM education faculty to the College of Science allows us to initiate this process, a process that ultimately will result in more effective elementary and secondary teachers, better-educated college students, and better-prepared employees for tomorrow's careers and professions.

Note: Utah currently confronts a shortage of elementary and secondary school teachers. That shortage is predicted to get worse in coming years, especially in the critical areas of science and math.

Outcomes – Additional math educators will not only allow us to improve math education in regional districts, but also can help improve developmental math at WSU while decreasing the long-term need for that program by improving math success among K-12 students. WSU also lacks sufficient expertise in life-science education and in the growing fields of engineering/technology education. We aim to develop a core of STEM education expertise at an appropriate scale to make a difference in our region.

Assessment – Comparative data (pre-hire/post-hire) on number of graduating students prepared to teach STEM courses in public schools; number of graduates receiving teaching positions; general improvement in ACT math scores and performance in college-level math courses in the Weber/Davis region.

Budgetary Plan –   Salaries, Wages & Benefits $360,000 (4 faculty at $90k each)
                      Salary Supplement for Staff $24,120
                      Total $384,120

New Faculty Member in Supply Chain Management $180,000

Description – A new faculty member in SCM would allow us to address enrollment bottlenecks currently affecting at least two courses. Eliminating the bottlenecks will increase our 6-year graduation efficiency, thereby allowing us to produce highly-employable graduates in this area.

Rationale – SCM is a high-demand occupation. Over the past four years, SCM graduates have averaged three job offers each with salaries ranging from $50,000 - $62,000. Demand continues to grow. In addition, SCM is creating a Center for Supply Chain Excellence that will provide students the opportunity to work on real company problems, connecting students and employers and most likely leading to more and better placements upon graduation.

Outcomes – Increased number of majors; increased enrollment in SCM classes by non-majors; increased number of internships in SCM; increased national recognition for the SCM program and Goddard School; restructuring of current Concurrent Enrollment SCM course.

Assessment – Comparative data on number of majors, SCH's, internships and placements in SCM.

Budgetary Plan –   Salaries, Wages & Benefits $180,000

New Faculty Member in American Sign Language (ASL) $67,680

Description – A new faculty member in ASL would allow us to move from offering an associate's degree in ASL to offering a bachelor's degree (required to sit for the National Interpreting Certification exam).

Rationale – There is considerable interest in the study of ASL and plentiful employment for those with ASL degrees. A feasibility study completed in 2012 indicated student demand for a BA degree in ASL. A more recent survey, conducted in preparation for WSU's AA degree in ASL, indicates even greater interest. The Davis Applied Technology College's recent decision to phase out their program by 2017 will leave northern Utah without an ASL interpreting program. The U.S. Bureau of Labor Statistics forecasts that the demand for interpreters will grow faster than average because there is a short of qualified specialists.

Outcomes – Increased number of majors; increased enrollment in ASL classes by non-majors; increased number of graduates; increased number of alums working in the ASL field.

Assessment – Comparative data on number of majors, SCH's, graduates, employment.

Budgetary Plan –   Salaries, Wages & Benefits $67,680

SOUTHERN STATE UNIVERSITY $366,100 (3.66%)

Business Courses $366,100

Description – Increase the number of course offerings in high demand business programs through hiring additional accounting, finance and communication faculty. Fuel entrepreneurship and business development in rural Utah.

Rationale – Employers are demanding more graduates in finance, economics, and accounting fields than we are able to produce. This is also a key component to our rural economic development.

Outcomes – Increased number of graduates in the described business fields.

Assessment – Track number of students graduating in applicable majors and their time to completion.

Budgetary Plan –   Salaries, Wages & Benefits $366,100

SNOW COLLEGE $230,900 (2.31%)

Composite Manufacturing $67,000

Description – The College would purchase additional manufacturing equipment including a laser cutting table, an autoclave, and a better refrigeration system to provide students in our area an opportunity for training on machines that are industry standard.

Rationale – We are interested in providing a composite manufacturing program for students on our Richfield campus. There is an aeronautics manufacturers in our six-county service area

who are in desperate need of workers who have been trained in composite manufacturing. We have purchased some basic equipment, but we are in need of additional equipment to train the students on machines that are industry standard.

Outcomes – The College will create a composite manufacturing program and train students on industry standard equipment to help provide students with jobs in our six-county service area.

Assessment – Meet market demands of local six-county service area.

Budgetary Plan –   Equipment $67,000

Attract and Prepare Students for Market Demand Programs $163,900

Description – Snow College will continue to expand its current market demand efforts as well as the creation of new market demand efforts as needs arise.

Snow College has an excellent K16 Alliance program and works closely with our six-county service area on preparation for STEM and other market demand programs. Visits are made to local schools and outreach programs have and will be created to encourage applications to college and preparing for careers in STEM and other high demand programs.

Market demand programs require math proficiency and we would like to increase our efforts (training and conferences) in working with local math teachers in sharing best practices for teaching students and preparing them for College.

While there has been a national emphasis on STEM preparation, a growing concern from higher education, employers, and government is the need for students to develop "soft skills"—attributes of judgment, ethics, keen communications skills, leadership, and other interpersonal skills. These elements require a sound General Education program that is deliberate in its attempts to focus on big questions, integrative learning, problem solving and written and oral communication. We are developing a foundations course that will be required of all students that focuses on these characteristics of liberal education.

We are creating new biology courses to fulfill the life sciences requirement and to introduce students to the excitement and wonder of science. The courses will focus on particular specializations of biology that are designed to attract students to science that go beyond the usual general biology, anatomy and human biology courses.

We just completed a study looking at our allied health programs and are finding ways that we can offer more spots for students in our RN program.

We have expended business offerings to match the needs of our six-county area, including programs in agribusiness, rural business and entrepreneurship, and we are adding entrepreneurship components to programs in communications and computer science.

Rationale – The College would like to expand its current market demand efforts as well as explore new efforts to attract and prepare students for market demand programs.

Outcomes – Expanded efforts on current market demand initiatives as well as exploration of new market demand efforts.

Assessment – Attract and prepare students for market demand programs.

Budgetary Plan – Salaries, Wages & Benefits $110,000
Operating Expense $ 53,900
Total $163,900

DIXIE STATE UNIVERSITY $346,600 (3.47%)

New Academic Programs $346,600

Description – One of the primary goals outlined in DSU's recently completed strategic plan is the addition of baccalaureate majors and master's degree programs over the next five years. Funding for Market Demand Programs will greatly assist with the effort to hire the necessary faculty to launch these new programs.

The University has established an Academic Program Research Committee to identify areas of need and recommend key programs. Among the committee's initial findings are potential new undergraduate programs in health promotion, sociology, bioinformatics, digital film, earth and environmental science, information systems management, and sport and recreation management. The committee has also identified possible graduate program opportunities in education, technology entrepreneurship, and psychology.

Rationale – Although DSU has increased its number of available baccalaureate majors from 5 to 30 over the last ten years, many students are still faced with a choice of either pursuing a non-preferred course of study or transferring to another institution. Demand for new programs will continue to increase in conjunction with anticipated economic and population growth in the Southern Utah region.

Outcomes – Successful addition of new academic programs (including at least one master's degree) between Fall 2016 and Fall 2020.

Assessment – Number of baccalaureate majors and master's degrees offered.

Budgetary Plan –   Salaries, Wages & Benefits $346,600

UTAH VALLEY UNIVERSITY $1,157,600 (11.58%)

Associate of Science Nursing Cohort Expansion $116,909

Description – Increase Associate of Science in Nursing cohort to produce more ASN graduates.

Rationale – Population growth and demographic changes are fueling local healthcare organization expansion increasing demand for nursing graduates. To respond to this increasing demand, UVU proposes increasing the size of its ASN cohort by 20 students. To support this increased cohort, additional adjunct faculty are needed to support clinical experiences in hospitals and clinics. The addition of a laboratory lecturer for human physiology labs will help relieve bottlenecks and improve consistency in pre-Nursing courses.

Outcomes – Increased number of ASN majors and graduates.

Assessment – Increased number of ASN majors and graduates.

Budgetary Plan –	Salaries, Wages & Benefits	$115,909
	Operating Expense	$ 1,000
	Total	$116,909

Computer Science/Information Systems Technology Programs $546,151

Description – Provide appropriate faculty, staff, and equipment support for high student and industry demand programs in computer science and information systems technology programs.

Rationale – Student demand for computer science and information systems technology programs has increased over 40 percent in the past three years reflecting the region's growing high tech company expansion. In some cases, industry has hired "bootcamp" programmers but are now interested in UVU providing coursework to these employees to help move them beyond the basics to obtain their Associate's and Bachelor's degrees. Graduates in these programs earn high salaries and meet key workforce needs in the region and state.

Outcomes – Hiring of tenure track faculty, academic advisors, and support staff to meet traditional student enrollment demands, reduce bottleneck courses, improve student completion, and provide course delivery for employees of industry partners.

Assessment – Increased number of majors and graduates in these programs.

Budgetary Plan –	Salaries, Wages & Benefits	$482,651
	Operating Expense	$ 63,500
	Total	$546,151

Engineering and Related Programs $494,540

Description – UVU continues to expand existing and develop new engineering and related programs in response to the engineering shortage in Utah.

Rationale – UVU's service region is experiencing explosive growth in an already robust high technology sector. Industry leaders and advisory boards are concerned with the capacity of USHE to meet this demand. UVU is working closely with industry partners to identify their workforce needs from trained technicians to baccalaureate-trained engineers. Surveys of

UVU's pre-engineering students (now over 400 majors) indicate that these students would stay at UVU and finish their degrees if more four-year engineering programs were offered. Graduates in these programs earn high salaries and meet key workforce needs in the region and state.

Outcomes – Hiring of tenure track faculty and support staff to meet student enrollment demands and provide course delivery for employees of industry partners.

Assessment – Increased number of majors and graduates in these programs.

Budgetary Plan – Salaries, Wages & Benefits $444,040
Operating Expense $ 50,500
Total $494,540

SALT LAKE COMMUNITY COLLEGE $1,027,000 (10.27%)

Respiratory Therapy Technician Certificate of Completion and AAS Program $220,000

Description – Funding is needed to create a Respiratory Therapy Program. There is a current shortage for respiratory therapy technicians in the Salt Lake County service area. Based upon extensive discussion with major health care providers regarding immediate and long-term workforce needs, SLCC intends to develop a Respiratory Therapy Associates Degree Program to provide trained technicians in this high-demand area.

Rationale – Over twenty hospitals and 18 homecare companies compete to hire Respiratory graduates each year in the Salt Lake area. Only 40 students graduate from Weber State University each year. There is only one other school offering a respiratory therapy program, and they are under probation for the third year in a row. As of June 2015 there were 44 open positions in the valley and 30 more expected by the end of the year.

The Salt Lake Valley needs a feeder school that can continue to graduate qualified students ready for hire. An opportunity lies for the college to provide a competent Respiratory School in the Salt Lake area. In the Intermountain Healthcare System alone, there are 426 total RTs. Of the 426, 149 (35%) are in the Central Region which includes: Intermountain Medical Center, Alta View, The Orthopedic Specialty Hospital, Riverton, and LDS hospital. Adding in Primary Children's and Park City hospital, it increases this number to 224 (53%) RT's total. There are 20 Respiratory Therapists planning to retire in the Central Region in the next two years. With turnover and retirement, Intermountain alone could hire half of the proposed graduating cohort each year.

Clinical lab space for Health Science programs are at critical premium levels during the day. Accrediting bodies require designated lab space for a Respiratory Therapy Program. The college intends to create a unique niche for the Respiratory Program by offering an evening program. This would allow the Program to utilize the Nursing Arts Lab, which is used during the day, and provide the required the space needed for accreditation. Faculty office space is available in the Jordan Health Science building.

Outcomes – 1st year Develop Program, Receive approval from College Curriculum Committee, Apply for Accreditation. Once approvals obtained start marketing program, hire faculty. educate student services. 2nd year—Admit cohort up to 25 students. 3rd –year and ongoing—Continue with program and anticipate up to 25 graduates in the 4th year.

Assessment – Program will be assessed in like manner to other School of Health Sciences programs through a national accreditation.

Budgetary Plan –   Salaries, Wages & Benefits $160,000
                                   Operating Expense $ 60,000
                                   Total $220,000

Hospital Management AAS Program $210,000

Description – The AAS Hospitality Management program is intended to meet this high market demand area. It will be designed to help incumbent workers gain the knowledge and skills necessary to move into higher-level management positions, thereby increasing their earning power. In addition, the program will be attractive to those interested in entering the hospitality management industry. To address the broad skill range that incoming students may bring, the program will be designed with theoretical foundations of critical aspects of hospitality management and will include industry-embedded learning opportunities in the form of job shadowing, cooperative work placements, and internships. The program will have a capstone requirement where students will work directly with industry partners.

Rationale – Hospitality Management is a high market demand area in Northern Utah. In 2014 there were 16,795 jobs including food service management, lodging management, meeting, convention and event planning, supervisors in food preparation and serving, and hotel, motel, and resort desk clerks. There were 944 openings in these occupations in 2014. These occupations have an average hourly wage of $14.59 with the salary range from $9.99 (hotel, motel, and resort desk clerks) to $17.46 for lodging management positions. The following table shows the detail for each of the occupations.

Description	2014 Jobs	2024 Jobs	Increase in Jobs	% Change	Avg. Hourly	Annual Openings
Food Service Managers	3,794	4,637	843	22%	15.38	162
Lodging Managers	1,180	1,246	66	6%	17.46	57
Meeting, Convention, Event Planners	1,581	2,195	614	39%	21.66	88
First-line supervisors of Food Preparation and Serving Workers	7,314	9,052	1,738	24%	14.07	416
Hotel, Motel and Resort Clerks	2,925	3,551	626	21%	9.89	221
Total	16,795	20,680	3,887			944

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Outcomes –

- Establish partnerships with at least 6 businesses in the SLCC service area where students can engage in job shadowing, cooperative work placements, and internships. Partnerships will be established in the following sectors
- 2 large-scale catering operations (Cuisine Unlimited, Utah Food Services)
- 2 major hotels (Grand America, Little America)
- 2 major resorts (Park City Mountain Resort, Deer Valley Resort)
- Develop partnerships with local business who support employee education so that a minimum of 50 incumbent workers enroll in the program each year.
- Involve representatives from the hospitality industry to participate in the Program Advisory Committee
- Deliver courses through online, on-ground, and hybrid delivery modes

Assessment –

- At least 10 students will have an embedded learning experience with one of the industry partners.
- At least 20 students will complete the program by the end of the 2017-18 academic year.
- The number of students who complete an embedded learning experience (job shadow, cooperative work experience, internship) will increase each year.
- Of the students who graduate from the program, within 6 months of graduation, 75% will be employed in a hospitality-related occupation.

Budgetary Plan –   Salaries, Wages & Benefits $160,000
                     Operating Expense $ 50,000
                     Total $210,000

IT Boot Camps Program $597,000

Description – SLCC intends to build capacity to effectively and efficiently provide IT coding bootcamps for adults and outreach opportunities for middle- and high-school students. This would expand and sustain efforts of the current Utah Cluster Acceleration Partnership (IT) consortium grant to close skill gaps in critical IT coding job sector.

Overall Program Model Design:

- Pathway development (basic—advanced BootCamps)
- Student (talent) engagement strategy
- Employer/talent matchmaking
- Outcome metrics and evaluation tracking dashboard (placement and retention in Utah companies)

Instructional Re-Design/Focus for Post-Secondary Bootcamps:

- Readiness assessment
- Basic coding
- Programming mastery

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- Frontend applications
- JAVA and JAVA-related
- HTML
- Css3.
- Backend applications
- Data stores and relational database
- Customized programming for career advancement
- Project Portfolio

Instructional Design/Delivery for Pipeline Bootcamps:

- Expansion of SLCC's *Bytes of Brilliance* program
- Outreach and delivery to targeted elementary and middle school officials in SLCC service area
- Expansion of current CTE programs housed in secondary high schools within SLCC service region

Rationale – Demand for short term training is critical in Utah. The UCAP model pilots a method for academic institutions to deliver responsive and market-demand IT bootcamp training in partnership with commercial vendors. This model maintains flexibility, adaptability and responsiveness to changing workforce needs. SLCC's Miller Campus is ideal to sustain the UCAP model inasmuch as it houses adequate space and infrastructure to administer and host IT bootcamps and to maintain the necessary relationships with IT trainers and companies in order to keep pace with workforce demands.shows the detail for each of the occupations.

Outcomes – Successful implementation should result in training opportunities for 100-200 students/year

Assessment – Boot camp effectiveness will be assessed via student placement as entry-level IT employees, industry surveys to assure instructional quality and relevance.

Budgetary Plan –
Salaries, Wages & Benefits	$250,000
Operating Expense	$347,000
Total	$597,000