

March 23, 2016

MEMORANDUM

TO: State Board of Regents

FROM: David L. Buhler

SUBJECT: Utah State University – Associate of Science in Agricultural Science

Issue

Utah State University (USU) requests approval to offer an Associate of Science (AS) in Agricultural Science effective in fall 2016. The institutional Board of Trustees approved the degree on January 8, 2016.

Background

The proposed AS in Agricultural Science has been developed by the School of Applied Sciences, Technology, and Education (ASTE) in the USU College of Agriculture and Applied Sciences. The degree would be based at USU Eastern and offered across the USU regional campuses via broadcast, face-to-face, and online instruction. Existing faculty in the School of ASTE, with cooperation and collaboration from other faculty in the College of Agriculture and Applied Sciences and USU Extension, are sufficient to offer the proposed AS. Upon completion of this two-year degree, graduates would be positioned to either work in the agriculture industry or transfer into a number of four-year degree programs available at USU Logan.

The proposed 60-62-credit AS in Agricultural Science includes 30 credit hours of general education courses and 30-32 credit hours of core agriculture courses and electives. Given the extensive offerings in agriculture already in place at USU, existing courses and library/information resources more than provide what is necessary for the proposed AS degree. U.S. Department of Agriculture projections point to good employment prospects, with the number of new college graduates falling below the number of anticipated job openings. The proposed AS in Agricultural Science is expected to appeal to place-bound students living and working in rural areas of Utah where agriculture is an important industry.

Policy Issues

The proposed degree has been developed and reviewed in accordance with processes established by Utah State University and the Board of Regents. The Utah System of Higher Education Chief Academic Officers and appropriate faculty have reviewed and are supportive of USU's request to offer an AS in Agricultural Science. There are no additional policy issues relative to approval of this program.

Commissioner's Recommendation

The Commissioner recommends the Regents approve the request by Utah State University to offer an Associate of Science in Agricultural Science.

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David L. Buhler  
Commissioner of Higher Education

DLB/GVB  
Attachment

**Program Description  
Utah State University  
Associate of Science in Agricultural Science**

**Section I: The Request**

Utah State University (USU) requests approval to offer an Associate of Science (AS) in Agricultural Science effective in fall 2016. The institutional Board of Trustees approved the degree on January 8, 2016.

**Section II: Program Description**

**Complete Program Description**

The proposed Associate of Science in Agricultural Science will be administered through the School of Applied Sciences and Technology Education (ASTE). The two-year degree is designed for delivery via distance education and will be offered through Utah State University's regional campus system. The associate degree integrates breadth of knowledge and applied learning in agriculture and natural sciences. Students will choose from general education, agricultural science, and general elective courses. Courses will be offered through a combination of online, interactive video conferencing (IVC) broadcast, and face-to-face formats. Assessment will employ distance education techniques, including but not limited to, online testing, proctored examinations, and individual project portfolios. Upon completion, students will have entry-level knowledge of agricultural science and be prepared to start a career in the diverse agricultural industry or enter a four-year degree program.

**Purpose of Degree**

Utah State University is the Land Grant University for Utah. It is known nationally and internationally for its programs in agriculture. The College of Agriculture and Applied Sciences (CAAS) has a mandate to advance agricultural science through excellence in teaching, research, and outreach. The proposed AS in Agricultural Science will be administered through the School of Applied Sciences, Technology and Education.

The Associate of Science in Agricultural Science will train students for growing jobs in agriculture and prepare them for transfer to a university to complete a bachelor's degree in the CAAS. The CAAS Student Services Center will be able to apply this degree directly into several departmental programs (e.g., Agricultural Systems Technology, Animal Science, Applied Economics, Landscape Architecture and Environmental Planning, Plant Science). According to U.S. Bureau of Labor Statistics, jobs that require associate degrees are projected to grow 17.6% between 2012 and 2022 (*Occupation Employment Projections to 2022* (2013); Monthly Labor Review, Bureau of Labor Statistics; retrieved from <http://www.bls.gov/opub/mlr/2013/article/occupational>, Table 2).

The stepwise progression of university degrees in the CAAS at USU has traditionally started with the Bachelor of Science (BS) degree. The completion of this "first" degree then allowed for advancement to the master's and doctorate. The implementation of an Associate of Science in Agricultural Science will provide an initial step. The degree will be offered through the regional campus system to place-bound students. It will be promoted to traditional and non-traditional students who have a fundamental interest in agriculture, but without the autonomy to easily move to USU Logan for a BS degree. It will serve as the first step for

some students seeking advancement in agricultural science. For other students, the AS degree will provide skills, and a higher education credential, to pursue a career in rural Utah and beyond.

### Institutional Readiness

This program will leverage resources already in place at USU Eastern and through the use of the regional campus system. Through the strategic development and placement of regional learning centers, the USU regional campus system is designed to support the implementation of the proposed degree. USU has partnered with communities throughout the state to offer and deliver programs using the latest technologies – online and IVC broadcast. The administrative structure is in place to offer the program; further, this program intends to also use local agricultural expertise through the involvement of Cooperative Agricultural Extension agents. USU’s commitment to distance education and the regional campus system is evident in the sustained resources dedicated to learning throughout the state.

The proposed Associate of Science in Agricultural Science will be based at the USU Eastern campus and targeted for delivery through the regional campus system. The degree is designed for access via distance education technologies. Courses will be executed through online, IVC broadcast, and face-to-face at select locations. Learning will be achieved through synchronous and asynchronous delivery of course content. Assessment will employ distance education techniques, including but not limited to, online testing, proctored examinations, and individual project portfolios. ASTE is capable of delivering this AS program.

The USU regional campus system has the personnel and technology in place to implement the proposed AS in Agricultural Science. The infrastructure for conveyance of this program currently exists at the Price and Blanding campuses. The promotion and marketing of the proposed degree and the needed academic advising are available to encourage and accept enrollments. USU has the capacity and the mandate to implement and grow this proposed agricultural science degree program.

No additional resources are requested. Implementation of the proposed program will not impact the continued high-quality delivery of undergraduate and/or lower-division education provided through the USU regional campus system.

### Departmental Faculty

Department Faculty Category	Department Faculty Headcount – Prior to Program Implementation	Faculty Additions to Support Program	Department Faculty Headcount at Full Program Implementation
<b>With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)</b>			
Full-time Tenured	15		15
Full-time Non-Tenured			
Part-time Tenured			
Part-time Non-Tenured			
<b>With Master’s Degrees</b>			
Full-time Tenured	5		5
Full-time Non-Tenured	6		6

Part-time Tenured			
Part-time Non-Tenured			
<b>With Bachelor's Degrees</b>			
Full-time Tenured	4		4
Full-time Non-Tenured	5		5
Part-time Tenured			
Part-time Non-Tenured			
<b>Other</b>			
Full-time Tenured	4		4
Full-time Non-Tenured	3		3
Part-time Tenured			
Part-time Non-Tenured			
<b>Total Headcount Faculty in the Department</b>			
Full-time Tenured	28		28
Full-time Non-Tenured	14		14
Part-time Tenured			
Part-time Non-Tenured			
<b>Total Department Faculty FTE (As reported in the most recent A-1/S-11 Institutional Cost Study for "prior to program implementation" and using the A-1/S-11 Cost Study Definition for the projected "at full program implementation.") FY15 actual</b>	41.95	X	41.95

### Staff

No additional administrative, secretarial, clerical, laboratory aides/instructors, advisors, or teaching assistants will be required to implement and sustain the Associate of Science in Agricultural Science. Existing staff will be identified and assigned to accommodate the degree program.

### Library and Information Resources

Utah State University currently has the necessary library resources to implement and sustain this new degree program using the holdings for the existing degree programs in the CAAS. Statewide access to library resources will be required and access to the collection is available remotely. While reference materials (online journals, archives, database, and e-books) will be used in many courses, USU's learning management system (Canvas) allows for the placement of such reference materials within the online course. Faculty developing and advancing online courses enjoy excellent library support.

### Admission Requirements

Current admission requirements will be used in reviewing and accepting applicants to the proposed program. No specific or additional admission requirements will be used. Standards for admission will be neither relaxed nor amplified. USU Eastern is an open-enrollment institution, and current admission requires a secondary diploma (or equivalent) and submission of ACT or SAT scores.

## Student Advisement

The USU regional campus system uses a local approach to student advisement combined with advanced technologies. The majority of the regional campus centers employ from one-to-three academic advisors who would be responsible for the proposed program. Where face-to-face advising is limited, two techniques are used: (1) on a monthly basis, regional campus advisors travel to the regional campus centers without full-service advisors; these regularly-scheduled advising sessions are scheduled through an appointment management software system; and (2) regional campus advisors also use IVC connection technology to meet electronically with students. Information is shared through password secure file transfer systems, and all advisors track student progress through the USU time-to-degree-completion software system.

## Justification for Graduation Standards and Number of Credits

The proposed Associate of Science in Agricultural Science will use graduation requirements consistent with other Associate of Science programs at USU. Students are expected to earn a minimum of 60 credits. Twenty credits must be earned at USU. The agricultural science core will include 20 credits. The General Education requirements are the same as for other USU students earning an AS degree. A minimum 2.0 GPA would be required for graduation.

## External Review and Accreditation

This proposed degree used similar programs at other institutions as a model for the development process. While external consultants were not directly utilized, the expertise of the proposal planning team includes teaching and industry experience from numerous state land grant college systems, especially the Midwest where this style of degree is highly valued and well-populated.

No specific professional credentials or licensures will be sought. While some graduates may pursue certification in unique agricultural production and service enterprises (e.g., pesticide applicators, artificial insemination, certified crop consultants), degree completion does not require nor provide any specific credential or licensure.

The proposed Associate of Science in Agricultural Science will be accredited within the structure and cycle of review for ASTE. There is no industry-specific accreditation that would apply to the proposed degree program.

## Projected Program Enrollment and Graduates; Projected Departmental Faculty/Students

Data Category	Current – Prior to New Program Implementation	PROJ YR 1	PROJ YR 2	PROJ YR 3	PROJ YR 4	PROJ YR 5
<b>Data for Proposed Program</b>						
Number of Graduates in Proposed Program	X	5	10	20	30	35

Total # of Declared Majors in Proposed Program	X	10	20	35	40	45
<b>Departmental Data – For All Programs Within the Department</b>						
Total Department Faculty FTE (as reported in Faculty table above)	41.95	41.95	41.95	41.95	41.95	41.95
Total Department Student FTE (Based on Fall Third Week) Fall 2015	736.50	748.76	762.76	782.76	789.76	795.76
Student FTE per Faculty FTE (ratio of Total Department Faculty FTE and Total Department Student FTE above)	17.56	17.85	18.18	18.66	18.83	18.97
<b>Program accreditation-required ratio of Student FTE/Faculty FTE, if applicable.</b>	NA	NA	NA	NA	NA	NA

### Expansion of Existing Program

The proposed program is not an expansion or extension of an existing program. As an Associate of Science program, it could be considered a pre-step to the Bachelor of Science in one of the many excellent CAAS degree programs. However, the pure intent is not as a “feeder program,” but rather as a degree option for students in the regional campus system living and earning outside the USU Logan residential campus. Predicted enrollments are cited in the table above.

### Section III: Need

#### Program Need

As part of its Land Grant mission, USU is to provide practical education, including education in agriculture, to the people of the State of Utah. This degree will be based at USU Eastern and focused upon the rural areas of the state where agriculture is an important industry. Residents in all areas in Utah can benefit from a degree program focused on helping graduates learn to design and apply technologies to guide the ethical use of land, food, water, and economic resources, thereby improving the health and well-being of humans, plants, animals, and the environment.

#### Labor Market Demand

According to the Utah State Office of Education, about 85% of Utah’s citizens complete their high school education with a diploma (*Utah 2015 Graduation Rates* (2015); Utah State Office of Education, retrieved at <http://schools.utah.gov/data/Superintendents-Annual-Report/2015/GraduationReport.aspx>, p. 1). Approximately 26% of Utah’s high-school graduates go on to complete a bachelor’s degree program (*Steps to Improve College Graduation Rates: College Preparation and Student Success, Analysis Report No. AR 15-01* (2015); retrieved from <http://financialreports.utah.gov/saoreports/2015/AR15-01StepstoImproveCollegeGraduationRatesStateBoardofRegentsoftheStateofUtah.pdf>, p.3). Twenty years ago, a college graduate earned 2.0 times more over a lifetime than a high school-only completer (*Help*

*Wanted: Projections of Jobs and Education Requirements Through 2018* (2010); Georgetown University Center on Education and the Workforce; retrieved from <https://cew.georgetown.edu/wp-content/uploads/2014/12/fullreport.pdf>, Figure 5.2). It is estimated that a graduate with an associate degree will earn from 26% to 33% more than a high school graduate (*Help Wanted: Projections of Jobs and Education Requirements Through 2018* (2010); Georgetown University Center on Education and the Workforce, retrieved from <https://cew.georgetown.edu/wp-content/uploads/2014/12/fullreport.pdf>), p. 96); and *The College Payoff: Education, Occupations, Lifetime Earnings*; Georgetown University Center on Education and the Workforce; retrieved from: <https://www2.ed.gov/policy/highered/reg/hearulemaking/2011/collegepayoff.pdf>, p. 4).

The latest employment report from the U.S. Department of Agriculture indicates an anticipated 57,900 average annual openings for college graduates in food, agriculture, and renewable natural resources between 2015 and 2020 (*Employment Opportunities for College Graduates in Food, Agriculture, Renewable Natural Resources, and the Environment* (2015); United States Department of Agriculture, under Award No. 14-38837-22371.USDA2015; retrieved from <https://www.purdue.edu/usda/employment/>). It is projected that an average of 35,400 new graduates will be prepared to take these positions, creating a shortage of 39%. Approximately half of these openings are expected to be in management and business, with over 25% in science, technology, engineering, and mathematics (STEM) related positions. The remaining positions are expected to be in sustainable food production, education, and governmental services. This degree program can prepare additional graduates to meet the labor market demand, particularly for those opportunities in the rural areas of Utah and the Four Corners region.

## **Student Demand**

The consistent growth at USU regional campuses serves as an indicator of student demand. The average growth has been approximately 10% per year for the past five years. Non-traditional, adult learners are returning to complete degrees and certifications. Student interest at the Blanding campus location continues to draw attention. This program will provide an agriculture degree option for students on the Blanding campus as well as other students located in rural Utah, especially in southeastern Utah. Anecdotal information from students and contacts in this area provide encouragement for offering this degree. The addition of an Associate of Science in Agricultural Science will provide an option for those currently enrolled in the regional campus system and will attract students living and working in rural Utah who have an interest in agriculture production, processing, management, and environmental sustainability.

## **Similar Programs**

Within Utah, there are two other higher education institutions that offer residentially-based programs in agriculture at the associate degree level. Snow College has an Associate of Science in Agribusiness and Agriculture with the intent of transfer to a bachelor's degree; it is a residential program. Southern Utah University (SUU) offers two associate degrees related to animal agriculture in Livestock Farm Management and Equine Studies; both of the SUU programs are offered on campus. Neither Snow College nor SUU offer their programs as an off-campus degree program. Agricultural science-interested, place-bound students will benefit from this proposed program.

In the general intermountain region, Great Basin Community College (Elko, NV), College of Southern Idaho (Twin Falls, ID), and Western Colorado Community College (Grand Junction, CO) offer assorted specializations in agriculture resulting in an AS or AAS degree. A close approximation might be Colorado

State University where a plethora of online degrees are offered, although the single agriculture-related degree is at the BS level.

### **Collaboration with and Impact on Other USHE Institutions**

The proposed degree is a stand-alone program to be implemented through USU Eastern and the regional campus system. Evidence of collaboration is best observed through USU's relationship with the Utah Education Network in the IVC broadcast of courses and online learning. Advisors will work closely with students who have earned course credit from other institutions and then seek admission and completion of the Associate of Science in Agricultural Science. The transfer and articulation agreements from other institutions will be honored and implemented as place-bound students who began a degree program, but stopped-out for whatever reason, make the decision and take the action to enroll in this proposed AS degree program.

### **Benefits**

The proposed Associate of Science in Agricultural Science will provide increased access to higher education within a traditional industry for a potential audience of place-bound learners.

The State has a goal to increase the number of Utahans with postsecondary education to 66% by 2020. For many, a bachelor's degree is the goal. Yet, the Utah Foundation recently reported that Utah is falling behind when it comes to BA/BS higher education completion rates. For example, in 2014 Utah ranked 39<sup>th</sup> among states for on-time graduation, with only 47% of students in public, four-year colleges graduating within six years. The national average is 59%. An Associate of Science degree is often the gateway to career success and more learning. Implementation of the proposed program to place-bound students will allow for greater access at an affordable cost (including tuition, fees, and opportunity costs).

The USU regional campus system provides for greater access to degree programs from the AS/AAS to EdD. With targeted programming for specialized, place-bound populations, the USU regional campus degree development and program delivery model is designed to support the proposed Associate of Science degree program.

The degree will integrate the required General Education courses with a palette of agricultural science course options. As the degree program outlines, the General Education courses are standard for the USU system and the proposed off-campus program will not compromise the General Education principles.

### **Consistency with Institutional Mission**

Utah State University, as the Land Grant University for the State of Utah, has an institutional mandate to develop, implement, and sustain viable higher education programs for all Utah citizens. The statewide outreach has been well demonstrated through the USU Extension, in the placement of more than a dozen agricultural experiment stations throughout the state, and the development of a regional campus system. Outreach, distance education technology, and recognition of (and respect for) place-bound student is the central focus of the regional campus system. The implementation of the proposed Associate of Science degree is consistent with the University's resources, mission, and purpose.

## Section IV: Program and Student Assessment

### Program Assessment

The goals for the Associate of Science in Agricultural Science are to elevate the agricultural industry and the agriculturally career-focused students. The advancement of agriculture as a sustainable industry, from the farm field to the dinner plate, requires new and innovative citizens. Rural Utah is certainly where the majority of agriculture is practiced and where the proposed program is designed to impact. The basic measure of success would be program graduates. A secondary measure would be entry-level placement upon program completion with equal accolade given for career placement or continuing education. Academic tracking during degree work and follow-up of graduates will be completed. ASTE is very good at both types of data collection and analysis and will also utilize the CAAS Student Services Center as a technical resource.

Follow-up of program completers will evolve as program faculty and advisors build the appropriate relations with USU Alumni and Development. Data access through these on-campus data warehouses will prove beneficial in following the careers of the program graduates. The use of social media will be explored and developed, as appropriate, to track the progress of degree graduates.

### Expected Standards of Performance

Review of the literature and validation of an expert panel yielded the development of the following program standards and competencies

- Computational Standard
  - Calculate and apply basic and advance mathematical process
  - Analyze and interpret data to solve problems
  - Evaluate and solve problems by applying computational practices
- Communication Standard
  - Demonstrate written and oral communications
  - Prepare and present a persuasive argument
  - Document research and inquiry on topics of scientific interest
- Technical Science Standard
  - Understand and apply biological processes to animal and plant sustainability
  - Understand and apply chemical and physical processes to animal and plant sustainability
  - Become aware of agricultural and environmental interactions
  - Utilize financial managerial skills to operate an agricultural enterprise
- Human Relations Standard
  - Understand and apply ethical behaviors in the workplace
  - Define a problem and form options for resolution
  - Develop an appreciation for lifelong learning

The achievement of the standards and competencies will be assessed at the completion of coursework. An end-of-degree inventory will be conducted, using distance technology practices, to measure how well graduates have accomplished the expected standards and competencies. Corrections to the curriculum

and instruction techniques will be made based upon data from degree completers and industry requirements.

Student who enter the program but do not complete will be contacted to determine reasons for leaving. An attrition study will be implemented five years after launch of the degree. Findings will be used to improve program graduate rates.

## Section V: Finance

### Department Budget

Three-Year Budget Projection							
Departmental Data	Current Departmental Budget – Prior to New Program Implementation	Departmental Budget					
		Year 1		Year 2		Year 3	
		Addition to Budget	Total Budget	Addition to Budget	Total Budget	Addition to Budget	Total Budget
<b>Personnel Expense</b>							
Salaries and Wages	\$3,572,519	\$35,725	\$3,608,244	\$36,082	\$3,644,326	\$36,443	\$3,680,769
Benefits	\$1,643,358	\$16,433	\$1,659,791	\$16,597	\$1,676,388	\$16,763	\$1,693,151
<b>Total Personnel Expense</b>	<b>\$5,215,877</b>	<b>\$52,158</b>	<b>\$5,268,035</b>	<b>\$52,679</b>	<b>\$5,320,714</b>	<b>\$53,206</b>	<b>\$5,373,920</b>
<b>Non-Personnel Expense</b>							
Travel	\$123,463	\$1,235	\$124,698	\$1,247	\$125,945	\$1,259	\$127,204
Capital	\$43,212	\$432	\$43,644	\$436	\$44,080	\$441	\$44,521
Library	\$18,521	\$184	\$18,705	\$188	\$18,893	\$189	\$19,082
Current Expense	\$432,122	\$4,322	\$436,444	\$4,363	\$440,807	\$4,408	\$445,215
Total Non-Personnel Expense	\$617,318	\$6,173	\$623,491	\$6,234	\$629,725	\$6,297	\$636,022
<b>Total Expense (Personnel + Current)</b>	<b>\$5,833,195</b>	<b>\$58,331</b>	<b>\$5,891,526</b>	<b>\$58,913</b>	<b>\$5,950,439</b>	<b>\$59,503</b>	<b>\$6,009,942</b>
<b>Departmental Funding</b>							
Appropriated Fund	\$4,742,814	\$47,428	\$4,790,242	\$47,902	\$4,838,144	\$48,381	\$4,886,525
Other:	\$368,253	\$3,683	\$371,936	\$3,719	\$375,655	\$3,756	\$379,411
Special Legislative							

Appropriation							
Grants and Contracts	\$722,128	\$7,220	\$729,348	\$7,292	\$736,640	\$7,366	\$744,006
Special Fees / Differential Tuition							
<b>Total Revenue</b>	\$5,833,195	\$58,331	\$5,891,526	\$58,913	\$5,950,439	\$59,503	\$6,009,942
<b>Difference</b>							
Revenue-Expense	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Departmental Instructional Cost / Student Credit Hour* <i>(as reported in institutional Cost Study for "current" and using the same Cost Study Definition for "projected")</i>	\$195	\$0	\$195	\$0	\$195	\$0	\$195

\* *Projected Instructional Cost/Student Credit Hour data contained in this chart are to be used in the Third-Year Follow-Up Report and Cyclical Reviews required by R411.*

### Funding Sources

The USU regional campus system uses tuition and fees generated from course enrollments. A business model is used to consider program costs versus program revenues. Costs include instruction and program facilitation, at both the USU Logan campus and the rural sites. Enrollment expectations are set in advanced.

### Reallocation

Internal reallocation is not necessary for the implementation of the proposed degree program. Existing models will be used to budget and execute program implementation. The program is designed to be revenue neutral within the regional campus system.

### Impact on Existing Budgets

No costs are anticipated for the requested change. The courses required for the proposed degree are currently offered. The offering of the proposed degree is an internal allocation of courses to meet

curriculum and accreditation standards. There will be no budgetary impact, including cost savings, to another program or unit within the institution.

### Section VI: Program Curriculum

The Associate of Science in Agricultural Science will establish a rigorous strategy for individualistic degree completion. Utilizing the well-organized regional campus system, the degree will provide another option in the arsenal of specialized degree programs for meeting the public demand for a learned population. With the approval of the Agricultural Science degree, students can realize their goal of an Associate of Science degree from a Land Grant University – Utah State University.

#### All Program Courses (with New Courses in Bold)

Course Prefix & Number	Title	Credit Hours
<b>General Education</b>		
Various	Breadth American Institutions (BAI)	3
Various	Breadth Humanities (BHU)	3
ENGL 1010	Introduction to Writing: Academic Prose (CL1)	3
ENGL 2010	Intermediate Writing: Research Writing in a Persuasive Model (CL2)	3
MATH 1030, MATH 1050, STAT 1040, or STAT 1045	Quantitative Reasoning, College Algebra, Introduction to Statistics, or Introduction to Statistics with Elements of Algebra (QL)	3
	Additional General Education Requirements (BCA, BLS, BPS, BSS, and Exploratory) to be met in Agriculture Core or as recommended below	15
	<b>Sub-Total</b>	<b>30</b>
<b>Agriculture Core and Electives</b>		
	<i>Minimum of 20 credits selected from following courses</i>	
ADVS 1110	Introduction to Animal Science	4
ADVS 2080	Beef and Dairy Herd Health	3
ADVS 2090	Sheep Production Practices	2
APEC 2010	Introduction to Microeconomics (BSS)	3
ASTE 2710	Orientation to Agriculture Education	2
ASTE 2900	Food Matters: Ethics, Economics, and the Environment (BSS)	3
LAEP 1030	Introduction to Landscape Architecture (BCA)	3
NDFS 1020	Science and Application of Human Nutrition (BLS)	3
PSC 1800	Introduction to Horticulture (BLS)	3
PSC 2010	Soils, Waters, and the Environment (BPS)	3
WELD 1010	Beginning Shielded Metal Arc Welding	3
	<i>Other Recommended General Education Courses</i>	
BIOL 1610	Biology I	4
BIOL 1620	Biology II (BLS)	4
CHEM 1110	General Chemistry I (BPS)	4
CHEM 1210	Principles of Chemistry I	4
CHEM 1220	Principles of Chemistry II (BPS)	4

ENVS 1350	Introduction to Environmental Science (BLS)	3
ENVS 2340	Natural Resources and Society (BSS)	3
WATS 1200	Biodiversity and Sustainability (BLS)	3
WILD 2200	Ecology of our Changing World (BLS)	3
	Electives from in or out of College of Agriculture and Applied Sciences to complete total credits needed for degree	
	<b>Sub-Total</b>	<b>30-32</b>
	<b>Total</b>	<b>60-62</b>

### Example Program Schedule

Fall – Freshman Year	Cr	Spring – Freshman Year	Cr
ENGL 1010: Introduction to Writing	3	ENGL 2010: Intermediate Writing	3
MATH 1030, MATH 1050, STAT 1040 or STAT 1045	3	CHEM 1110: General Chemistry I (BPS)	4
Breadth – American Institutions	3	Breadth - Humanities	3
LAEP 1030: Intro to Landscape Architecture (BCA)	3	ASTE 2900: Food Matters: Ethics, Econ & Environ (BSS)	3
ADVS 1110: Intro to Animal Science	4	APEC 2010: Intro to Microeconomics (BSS)	3
<b>Total</b>	<b>16</b>	<b>Total</b>	<b>16</b>

Fall – Sophomore Year	Cr	Spring – Sophomore Year	Cr
ASTE 2710: Orientation to Agriculture Education	2	BIOL 1620: Biology II (BLS)	4
NDFS 1020: Science & Application of Human Nutrition (BLS) Exploratory	3	PSC 2010: Soils, Waters, and the Environment (BPS)	3
BIOL 1610: Biology I	4	ADVS 2080: Beef & Dairy Herd Health	3
PSC 1800: Intro into Horticulture (BLS)	3	WELD 1010: Beginning Shielded Metal Arc Welding	3
ADVS 2090: Sheep Production Practices	2	WATS 1200: Biodiversity and Sustainability (BLS)	3
<b>Total</b>	<b>14</b>	<b>Total</b>	<b>16</b>

The proposed degree program will be master-planned within the USU regional campus system. Multiple delivery technologies will be used. Face-to-face courses will be initiated at the Blanding or Price campus and made available to all USU Eastern students through IVC at the corresponding site. Scheduling for IVC broadcast into high-enrollment centers can be problematic when there are a limited number of receive classrooms available. Local site management will be key to successful program scheduling. Whereas the regional campus system has almost two decades of scheduling experience, it is highly unlikely that scheduling will be an issue. The curriculum outline earlier provides a template for understanding the consistent offering of courses, both for General Education and technical agriculture. For some regional campus locations, face-to-face courses could be offered. For other sites, courses will be limited to online and IVC broadcast.

## Section VII: Faculty

ASTE has broad expertise in technical and content-related skills, as well as existing specific expertise, to support AS degree programs in general agriculture. The table below shows faculty who have expertise/credentials related directly to this general agriculture degree program.

ASTE	Faculty	Teach	Res	Ext	Serv	Admin	Degree	University
Sasha	Bambas	95			5		BFA	Central Michigan University, Sculpture and Metalsmithing
Richard	Beard	15		75	10		PhD	Texas A&M University, Agricultural Engineering
Guy	Denton	25			10	65	PhD	Ohio State University, Agricultural Education
Kelsey	Hall	65	30		5		PhD	Texas Tech University, Agricultural Education/ Communication
James	Keys			90	10		MS	Utah State University, Animal Science Breeding and Genetics
Becki	Lawver	70	25		5		PhD	University of Missouri
Bruce	Miller	25			10	65	PhD	Iowa State University, Agricultural Education
Michael	Pate	65	30		5		PhD	Iowa State University, Agricultural Education
Tyson	Sorensen	65	30		5		PhD	Oregon State University, Agricultural Education
Debra	Spielmaker	60		35	5		PhD	Utah State University
Denise	Stewardson	10		80	10		MA	University of Maryland, Industrial Arts Education
Gary	Straquadine	25			10	65	PhD	Ohio State University, Agricultural Education
Brian	Warnick	40			10	50	PhD	Oregon State University, Education
Mason	Winters	95			5		BS	Weber State University, Manufacturing Engineering Technology
Lon	Youngberg	95			5		PhD	Utah State University Technology and Engineering Education