Cultivate Winter 2019/2020

Utah State University

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It has been another great year for the College of Agriculture and Applied Sciences as we continued to grow and change, supported by our strong roots in the agricultural sciences that were the foundation of Utah State University. The student leaders who serve on the CAAS Council express it succinctly with the phrase, “CAAS: First college. Best college.”

In 2019 we celebrated 100 years of training outstanding family and consumer sciences teachers, aka home economics teachers (see the story on page 10). It can be difficult to appreciate the changes that have occurred over the span of a century in fields that seem distant from our daily experiences. Not all of us use new genetic engineering tools in the search for ways to cure or prevent diseases, fly aircraft that rely on new technologies, or grow food for ourselves and others, but human needs for food, shelter, clothing, and managing our resources, personal growth, and relationships are central to all our lives. The ways we meet those needs have changed drastically in 100 years and our programs have changed right along with them.

It is a privilege to serve as the dean of a college that impacts people’s lives so directly. Our students inspire me whether they are following parents’ or grandparents’ paths to USU or are “First Scholars,” attending the university and forging a path no one in their family has traveled before.

We are grateful to the many alumni and friends of the college who donate to scholarships that allowed us to award more than $700,000 in scholarships to our students this year. As the decade ends, I look ahead with great hopes for the growth and change that 2020 promises for our faculty, students, and alumni throughout Utah and around the world.

Kenneth L. White
Dean, College of Agriculture and Applied Sciences; Vice President, Extension and Agriculture

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*No cows were actually fed doughnuts to create this photo for National Doughnut Day*
Featured

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ON THE COVER: The south entrance of Old Main in autumn evening light by James Boyd.
FALL SEMESTER 2019

College of Agriculture and Applied Sciences

CAAS students are enrolled at 31 sites across Utah and beyond. Students often take a mix of courses taught face-to-face, online, or broadcast to a site near them, and some pursue degrees fully online.

**Total Students**: 3,447
- Undergraduate Students: 3,042
- Graduate Students: 405

**STUDENT LOCATIONS**

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*Out of state and not enrolled in a fully online program. Students may be doing an internship or taking a few courses while serving in the military, etc.*

**FULLY ONLINE DEGREES**

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Caas.usu.edu/cultivate
Emily Greene, Tegan Durfee, Benjamin Herron, Ryan Nunn, and Garret Brogan (left to right) are among the nine USU students who traveled to Taiwan where they joined 90 other agriculture students from the Philippines, Malaysia, Thailand, Japan, Korea, Guam, and Taiwan for an agricultural and cultural exploration trip organized by National Chung Hsing University.

Read about their experiences and see more photos of their travels at CAAS.usu.edu/cultivate
Creating a winning "chicken" nugget for a competition focused on dairy-based foods may sound unlikely, but it is a challenge successfully conquered by innovative students from Utah State University. A team of USU food science students took first place at the 2019 Idaho Milk Processors Association (IMPA) New Products Competition by developing a cheese-based, vegetarian nugget.

Savannah Branson is a graduate student in her second year of the food science program. She and team members Melissa Marsh, Ireland Green, Sophie Overbeck and Jun Mun Yang knew their “Moogets” would be uncommon in the market, which helped them stand out against products from other competing schools.

Branson said the science behind developing a new food product is challenging, but creating something new that can connect with consumers and current food trends can be the most difficult part of the process. The team of Aggies noticed the popular burger substitute of paneer cheese in India has gained traction as an alternative protein, and that is what inspired Moogets.

“It’s a vegetarian chicken nugget substitute made of 79% paneer cheese,” Branson said. “Paneer cheese is a fresh, acid-set cheese that’s really high in protein, which is why we chose it. It’s pretty bland, but can pick up other flavors as well. We also use vital wheat gluten to give it a texture similar to chicken. It has gluten strings

The winning product “Moogets” by USU’s food science students is made with 79% paneer cheese, which is high in protein and is a popular meat substitute in India.
Award-winning food science students (left to right) Ireland Green, Sophie Overbeck, Melissa Marsh, Jun Mun Yang and Savannah Branson created a tasty, dairy-based, vegetarian version of chicken nuggets.
DIET MAY AFFECT HEALTH FOR GENERATIONS

Award-winning research presented at a national conference by Sumira Phatak, a Utah State University toxicology Ph.D. candidate, shows that when it comes to developing some cancers, you are what you eat and so are your great-grandchildren.

Phatak received top awards at the American Society for Nutrition (ASN) annual meeting for her research on the impact of diet on colorectal cancer. She was awarded first place in the Diet & Cancer Research Interest Group’s Emerging Leaders in Nutrition Science Poster Competition and first place in the 3-Minute Thesis (3MT) contest. Phatak was one of just six students invited to present in the 3MT event after being selected from a pool of more than 400 applicants.

The objective of her research is to understand the impact of the “total Western diet” as a risk factor for colitis-associated colorectal cancer, building on work previously done by Phatak and others in Associate Professor Abby Benninghoff’s lab in the Department of Animal, Dairy and Veterinary Sciences. The research group found a marked increase in the incidence and severity of disease in third-generation offspring whose mouse “great-grandparents” were fed the high fat/salt/sugar total Western diet, even though the progeny mice in the generation between were fed a balanced diet.

Phatak said the group’s hypothesis was that ancestral or multiple generation exposure to the total Western diet may result in changes to gene expression in genes that are critical to developing cancer and “explain the greater tumor abundance and burden” observed in the descendent mice. After examining colon tissue samples from the mice, the group concluded that exposure to the total Western diet over multiple generations caused significant changes in genes involved in immune response in third-generation offspring.

Phatak also received a travel award from the Federation of American Societies for Experimental Biology to attend the conference and was elected to the ASN’s Student Interest Group Executive Committee. △
Each year at the Utah Agricultural Products BBQ, a Utah food producer or champion of agriculture is presented with an award for outstanding service to the state’s agriculture industry or Utah State University. This year’s award went to Gossner Foods.

The Logan, Utah-based company is a long-time supporter of USU and Aggie athletics. Gossner Foods produces top-quality cheese and ultra-high-temperature (UHT) pasteurized milk—affectionately known as “box milk” to many people who are fans of its portability and array of flavors—all from milk produced at Utah and Idaho dairy farms.

Gossner Foods’ solid foundation is the knowledge of founder Edwin Gossner Sr., who immigrated to America from Switzerland in 1930. Like many immigrants from mountainous regions of Europe, Gossner felt at home surrounded by the peaks that surround Cache Valley. Although people in the cheese industry said milk from the area did not have the right characteristics for making Swiss cheese, Gossner persisted and proved them wrong. The company is also the longest-running producer of shelf-stable, UHT milk in the country.

In honoring the company during the BBQ, the award citation read, “Gossner Foods has long recognized the vital role of the Utah and Idaho dairy community and the farmers who work hard each day to produce a safe and superb milk supply. The company also values the dedicated employees who create the products that are sold worldwide and their commitment to excellence in the workplace.”

The citation also noted the passing of beloved, long-time company president and CEO, Dolores Gossner Wheeler, in November of 2018. Gossner Foods continues to be committed to innovation and high-quality products built on the strength of Utah’s dairy farmers. △

At the 2019 Utah Agricultural Products BBQ, Kelly Luthi, (center) represented Gossner Foods in accepting the award for service to Utah’s agriculture industry. Luthi, vice president of Gossner’s milk operations, received the award from Ken White (left), dean of the College of Agriculture and Applied Sciences, and Randy Parker (right), director of USDA Rural Development in Utah.
Students in Utah State University’s Department of Plants, Soils and Climate (PSC) earned several awards at an international conference hosted by the American Society for Horticultural Science (ASHS).

Plant science student Alyssa Palmer was awarded the society’s most prestigious scholarship for undergraduate research. Palmer has been a research assistant since 2017 in Assistant Professor Youping Sun’s lab and is co-author of an article titled *Responses of Ornamental Grass and Grass-like Plants to Saline Water Irrigation*, which appeared in the journal, *HortTechnology*. She was honored earlier this year as the 2019 PSC Department’s Undergraduate Researcher of the Year.

Master’s degree student Anthony Whaley was named the 2019 winner of the eOrganic and ASHS Organic Interest Group Student Paper competition for his article, *Establishing Organic Peaches in the Intermountain West* (eorganic.org/node/33459). Whaley is mentored by Associate Professor Jennifer Reeve who is one of several faculty members and former students involved in nine years of organic peach research at the Utah Agricultural Experiment Station’s Kaysville Research Farm. Whaley synthesized information from a number of peer-reviewed articles on that work to create a publication for growers and gave a presentation on the segment of his paper devoted to organic orchard floor management which is critical to soil health and pest management.

USU plant identification team members Adrienne Hill, Julie Hershkowitz, Charlotte Jacketta and Palmer, mentored by PSC faculty members Lance Stott and Sun, also did very well in the competition. The team was edged out of first place by a single point, and came back with second place honors. In the individual plant identification competition, Hill placed first and Hershkowitz placed second.

PLANT SCIENCE
STUDENTS EARN TOP HONORS

BY
LYNETTE HARRIS
MATT YOST HONORED WITH EARLY CAREER AWARD

BY AMMON TEARE

Matt Yost, assistant professor and Extension agroclimate specialist at Utah State University, has been recognized by the American Society of Agronomy with the organization’s Early Career Award.

The award honors a society member for outstanding contributions to agronomy within seven years of completing a final college degree. Yost joined the faculty in USU’s Department of Plants, Soils and Climate and USU Extension two-and-a-half years ago, where he has been involved in research projects supported by more than $5 million in funding. The projects exemplify a larger body of research he’s been involved in, all of which is aimed at improving yields for farmers while using water and fertilizers more efficiently.

Yost was raised on a dairy farm in Idaho and said his background helps him empathize and communicate with the farmers he works with now in his career.

“Climate change is not always a popular topic in the agricultural community,” Yost said. “We’ve really tried to focus on climate impacts without necessarily terming everything climate change. Farmers understand and accept the threat of drought, for example. Looking to the future, we expect that there will be less snowpack and higher temperatures—meaning a greater demand for water.”

Results from two advanced irrigation systems tested in Yost’s research indicate that farmers could use 20 percent less water while maintaining yields and reduce the amount of water used annually by 20 billion gallons. Yost will continue searching for innovative solutions to Utah’s water needs while leading Extension efforts to share research results and best practices with producers in Utah. △

PRESERVING OUTDOOR PRODUCTS’ HISTORY

BY CHASE ANDERSON

Through the efforts of Clint Pumphrey, manuscript curator for Utah State University Libraries’ Special Collections, the creation of the Outdoor Recreation Archive is providing a home for the history of outdoor clothing and equipment brands and technologies. To date, collectors, enthusiasts, and lovers of the outdoors and its history have donated over 1,300 items to be preserved and studied at USU.

All items in the collection housed at USU’s Merrill-Cazier Library are accessible to students, researchers, the public, and people in the industry. A digital exhibit has also been created where the front cover of each item in the collection can be viewed at tinyurl.com/OPDD-Catalogs-History.

“While many archives have a catalog here or there, or even have complete runs of a few different catalogs, ours is the first effort I know of to systematically collect outdoor recreation catalogs over a century-long period,” said Pumphrey. “We’ve been in contact with some pretty serious catalog collectors who are impressed at the size and scope of our collection, which continues to grow as we add catalogs old and new.”

Each document in the collection is cataloged, the cover is digitized, and the physical item kept in a temperature-controlled environment so it can be preserved, protected, and appreciated for years to come. The collaboration between USU’s Special Collections and Outdoor Product Design & Development (OPDD) program brings a unique offering to the outdoor industry, allowing students and professionals to study the history of successes, failures, and the legacy of outdoor brands. △

Those who would like to contribute to the collection can contact Clint Pumphrey, at clint.pumphrey@usu.edu.

LEARNING TO LIVE YOUR BEST LIFE

Celebrating a Century of Family and Consumer Sciences Education

BY LYNNETTE HARRIS

Above: Students in the 1950s gather on the Family Life Building’s patio. Left: Home economics students in the living room of the Home Management House, 1928. Below: Students in appropriate foods lab dresses and aprons demonstrating creative salad making. Photos courtesy of USU Special Collections and Archives.
Family and consumer sciences (FCS)—previously and widely known as home economics—has been about science, technology, engineering and math since long before STEM was an acronym. Add skills like the basics of clothing and interior design, and FCS becomes a STEAM discipline with an "A" for art.

No matter what you call it, 2019 marked the year that Utah State University has been preparing future secondary school teachers to teach important skills for daily living for 100 years. While the field has been around for more than a century, the ways in which skills are taught and the topics FCS covers have evolved to reflect the times. One change in USU’s program came in 2003, when its academic home, the College of Family Life, was disbanded and FCS education moved to the College of Agriculture. It is one of the degrees that put the “applied sciences” into the College of Agriculture and Applied Sciences.

If there is one thing faculty in the program want people to recognize it’s that FCS is more than just still here after all these years, it is a vibrant, adaptable, and important field that applies to everyone’s life. After all, every scientist, engineer, business owner, salesperson, musician (fill in the occupation of your choice) eats, deals with personal and family finances, shops for and lives in some sort of housing, navigates personal relationships, and wears clothes.

Principal Lecturer Julie Wheeler is no longer surprised when new acquaintances look puzzled when she says she teaches family and consumer sciences, so she usually clarifies by adding, “Home ec.” She is accustomed to people asking, “Do they still teach that stuff?” and responds with, (or, at least, feels like responding) with a question of her own: “Do you have a mortgage, wear clothes, eat, organize your home, and manage family relationships? Of course we still teach these skills!”

The thing is that exactly what is taught and how it’s taught are changing all the time. “I’ve taught some of the same courses here probably 50 times, but I’ve never taught the same class twice,” Wheeler said. “And we tell our students that if they’re not willing to keep up with changes and adapt to new methods, don’t be a teacher because it won’t be fair to your students.”

Whether middle and high schools call the courses FCS, home economics—or, in some recent cases, adulting—the topics fall into categories of food and nutrition, clothing and textiles, consumerism and financial literacy, interior design and housing, and family and human development, and each of those areas are comprised of hundreds of subtopics and learning modules. Programs are reviewed every three years to determine what changes will be made to keep the curriculum relevant to how students and their families live.

For example, in a junior or high school foods class, there will be cook-
ing and also lessons about safe food handling and nutrition. Lab days may mean following recipes to create dishes from scratch, perhaps using math to scale quantities up or down, and learning basic food preparation and cooking techniques that people have used for generations. A lab may also aim to give students experiences like transforming a cake mix or can of biscuit dough into something beyond their standard package directions.

“There is room for both approaches,” Wheeler said. “If all you teach is how to cook from scratch, and then your students go home and there is no from-scratch cooking or ingredients there, they are in a bad spot. But if their classes help them get past the feeling that they can’t cook, then they are more likely to try.”

Because most FCS classes focus on hands-on learning, not just “paper and pencil” exercises, Wheeler finds they are great opportunities for her students to learn and then teach creative problem solving.

“We teach problem-solving skills in many ways,” Wheeler said. “If they make a mistake in a project, it’s okay, and we’ll talk about how they might fix it. You damage your pants, let’s figure out how you can repair them.”

Learning to make things work and problem solve is also an important skill in financial literacy and consumer education. Professor Lucy Delgadillo explained that may mean learning to make a spending plan that brings a personal or family budget into balance, or doing the internal work of coming to understand how your emotions and life experiences shape the way you feel about money.

“My field is fascinating and changing,” Delgadillo said. “It’s not just that the economy changes, but even the way we teach personal finance has changed and we respond better to the needs people have now.”

A big shift in how financial literacy is taught has happened just in the past decade. It’s no longer just about budgets or how and why to have bank accounts. It recognizes that money management is not a one-approach-fits-all topic, that how you feel about the money you have is as important as the amount of money you have.

“Economists and others involved in financial literacy recognized around 2010 that cognitive knowledge about finances is necessary, but not sufficient,” she said. “Basically, I don’t do any good by just teaching you to have a savings account or a checking account and about being part of the financial system but ignore that people are emotionally driven, that they have biases and have developed ‘money scripts’ about how they feel about money.”

It is certainly simpler to measure cognitive knowledge than sort out feelings about money: give a pretest on knowledge of some aspect of money management, teach new concepts, and give another test to measure the change in knowledge. Done. But if knowledge alone was enough to change behavior, nearly everyone would eat well, exercise regularly, and never go into bankruptcy.
Helping young people identify their emotional biases and money scripts, and recognize that others have their own as well, prepares them to make better financial choices.

“We teach people to recognize their decision-making processes and tolerance for risk taking.” Delgadillo said. “Junior high and high school students are largely at stages of development where they are not looking at the big picture and how actions will impact the future. That’s why it is important to teach affective parts of handling money. Some content may not seem relevant to them and they think ‘Why are you teaching me about retirement saving? Are you crazy? I’m 17 years old.’ But we can teach them to recognize their emotions and identify their triggers.”

For example, someone may learn to recognize that they want to shop when they are sad, or shop as a celebration, and when they are especially happy. They may recognize that certain events, like Black Friday, make them feel they should spend money and learn to use strategies to avoid overspending, such as setting a spending limit and using only that amount of cash, no credit or debit cards, so they have a physical reminder of how much they have spent.

USU students pursuing many different majors take some FCS classes either as general credits, their own interests, or for their degrees. Textiles and clothing design and construction classes are currently filled with students pursuing degrees in outdoor product design and development who are learning to draft patterns, understand different materials, and use home and industrial sewing machines. But the education components of family and consumer sciences education are as important as the skill they plan to teach. Courses in curriculum development, classroom management, and teaching methods round out students’ degree programs and make USU’s FCS education graduates highly sought after teachers. Wheeler said among FCS educators across the country, Utah is considered a state with outstanding school programs. Districts looking to fill teaching positions frequently contact USU’s department hoping to employ its graduates.

Wheeler said incoming students sometimes have the idea that when they graduate and become teachers they will be able to just choose to teach the things they like best. They learn in a hurry that state and national standards for curriculum and learning outcomes direct what they teach, though teachers have a lot of creative control over how subjects are taught and opportunities to tailor programs to local needs.

Over the years, students have sometimes left the program because they didn’t want to teach the whole range of courses FCS teachers must cover, or discovered during classroom experiences in public schools that they don’t want to teach school after all.

“Students may have had a great teacher and think they want to become teachers too, but they are usually naïve about what it is that teachers really do,” Wheeler said.

A recent change in USU’s FCS education program is the option of a degree that doesn’t focus on teaching secondary school. Instead, students may use their skills to become community-based educators, perhaps working in Extension programs or in other careers that could include humanitarian work or turning an interest into a small business. Students in the program do two internships rather than traditional student teaching, and those experiences help them explore or create career options. For example, one student decided that her goal is to have a catering business, and she arranged an internship with a wedding planner. An introductory course now helps students see career possibilities that may include teaching cooking skills to adult learners or providing services to people in the growing population of senior citizens.

The program may have started 100 years ago and made many changes, but at its core, FSC could always have been summed up with a modern phrase: It has always been about helping people live their best lives. 

This fall, alumni and faculty celebrated 100 years of the FCS/home economics education program and planted a tree near the Agricultural Sciences Building. The group included Helen Lower Simmons (second row, center) who graduated in 1952 (see more of her recollections on page 14).
Many students arrive at college uncertain about their education goals and career plans. Miss Helen Lower wasn’t one of them.

“I decided in the seventh grade that I wanted to be a home economics teacher and my inspiration was Anna Lou Rees,” she said. “She came from the (Utah State Agricultural) college to teach home economics at Lewiston Junior High School. She was vivacious and excited about her work, and she was interested in all of us.”

As an aside, Helen recounted that the inspiring Miss Rees later married Gaurth Hansen, a biochemist who became provost at Utah State University, and is the mother of USU alumnus and Nobel Prize-winning economist Lars Hansen.

Helen enrolled in college in 1948, and things she learned even during that first quarter in Jean Richards Dance’s Clothing and Personality course shaped how she later taught her own classes at Logan High School.

“She wanted to build self-confidence in young girls,” Helen said. “She would tell us, ‘Stand in front of a mirror all by yourself and look at yourself eye to eye and say, I’m as good as anyone else. I’m as good as anyone else. If your eyes dart away from your face, you start over again until you can say it to yourself several times.’ She taught us to look people in the eye when we met them. I used that when I taught school and years later I had girls tell me how much that helped them feel good about themselves. Just something that simple from a teacher can make a difference.”

Besides clothing construction, textiles, foods and nutrition classes, Helen took biology, physiology, art, and a three-course chemistry series. She also completed a minor in journalism and worked on the campus newspaper. It was a busy time on the Logan campus with former soldiers and sailors returning from battle in World War II and using the GI Bill to earn college degrees. Helen recalls being one of just 20 women in a chemistry class of 125 students and among the three women in an economics class of 93 students. Her father frequently reminded her to stay away from “older guys who are looking for a wife” and complete her education.

Other classes in her major were full of female students. In cooking labs, students were graded on their food preparation techniques, cleanliness, final products, and also the condition of the white dresses and aprons they were required to wear, which meant washing, pressing, and starching that uniform every week.

For decades, students enrolled in the College of Family Life and preparing to become home economics teachers were required to live for six weeks at the Home Management House, a structure that still stands at the foot of Old Main Hill. Six girls at a time lived in the house, along with the professor, and each week the students rotated duties in the house and their performance was graded.

Among the tasks in the rotation were laundry and ironing, which meant pressing all of the home’s table and bed linens—yes, ironing all the sheets, pillow cases, placemats, and tablecloths by running them through the mangle iron (Look it up if you don’t work with textiles for a living or were born after about the mid-1960s).

“Girls were in charge of meal planning and cooking and we had to plan and prepare breakfast, lunch, and dinner for the week,” Helen said. “Meals had to provide all the necessary vitamins and minerals for the day, so that was worked into your meal plan, and there was a budget. Everything was graded. Breakfast was served at 7 a.m. and you were expected to be at the table dressed and ready for the day. The table had to be set properly for breakfast and dinner, and lunch you could come for any time that worked with your schedule. Everyone was expected to be at dinner at 6 p.m.”

Other weeks you might have been in charge of the formal living room, which meant dusting, cleaning floors, and washing the windows. Though it may sound like a tough six weeks, Helen remembers it as a fun place to live with her fellow students and an experience that reinforced how clearly explained structure, cleanliness, and etiquette can ultimately help people feel more at ease.

Students in Quantitative Cooking classes prepared large quantities of food that was served in the university’s cafeteria, which was in the basement of the Family Life Building.

“We made salads and soups,” Helen recalled. “Once Miss Vermillion was overseeing our work there and asked if I had tasted the soup I was making. I told her I could tell it was good from the smell and she said, ‘Well, Helen, you’ll never be any kind of cook if you don’t taste the food as you prepare it.’ I thought of
that for years every time my husband reached for hot sauce or the ketchup.”

Helen met her future husband, Jack Simmons, at the university when she was a freshman and he was a junior. He was called on a mission to New Zealand for the Church of Jesus Christ of Latter-day Saints and returned in July 1951, just in time for the Korean War to prompt his being drafted six weeks later. They became engaged when Jack was on a 7-day leave at Christmas. He returned from training the end of April and they married two days later. Helen wearing a wedding gown she made using her considerable sewing skills, a Vogue Designner pattern, and inspiration from a gown she saw in Brides Magazine. Then, after just two weeks of married life, Jack shipped out to Japan to begin work as a cryptographer.

Helen graduated and went to work teaching at Logan High School while he was away. Her first contract in 1952 paid $2,600 per year for teaching home economics, including family relations for girls, foods and nutrition, plus a journalism class, and supervising students on the school newspaper staff and the district’s night classes for adults. Later she also taught clothing and textiles. She taught until her husband’s pursuit of a Ph.D. and post-doctoral work in biochemistry took them to Caltech and then Stanford University. They returned to USU where Jack was a faculty member and administrator for 32 years. As their family grew, Helen’s sewing skills kept them all well-dressed.

“It was cheaper then to make clothes for children than to buy them, though that’s not the case now,” she said. “We had a children’s clothing class when I was in school, and one of the best classes I had at Utah State was advanced clothing with Miss Gilmore. She brought beautiful fabric samples from all over the world…We sewed with excellent fabric and worked with a partner to measure and fit things properly.”

Helen has seen all sorts of changes in clothing costs and styles, all to be expected for someone who is 90-plus years old. She doesn’t sew much now, but has marked alterations to fit clothing for hundreds of people over the years, been asked to organize family members’ kitchens, and put her skills to work teaching the finer points of housekeeping to hundreds of LDS missionaries when her late-husband presided over the Oregon Eugene Mission.

It’s been decades since Helen was inspired by her junior high home economics teacher—who, remarkably, currently lives in southern Utah—but as she tells stories of Miss Rees and describes her as “vivacious” (adjective: Attractively lively and animated), it’s clear that the description also applies to Helen Simmons. △
Many alumni of Utah State University’s nutrition science program are pursuing medical careers and finding they stand out among the students competing for the limited number of slots available annually at medical and dental schools. Helping people, creating impact, and changing the world are common goals of aspiring medical professionals. But the journey to making a difference in peoples’ health begins before medical school and sometimes even before a bachelor’s degree.

USU alum Daniel Brandley is currently studying to become a family practice doctor at the University of Utah School of Medicine. He always wanted to become a doctor, and finding a university for his undergraduate degree with low tuition rates and quality education was important. After trying USU for a semester, Brandley took an introduction to nutrition class from Professor Heidi Wengreen in the Nutrition, Dietetics, and Food Sciences Department.

“I loved that class,” Brandley said. “It really revolutionized my own diet. Dr. Wengreen pulled me aside after class and said, ‘I heard you’re pre-med. There’s this really cool degree in nutrition science, and you should check it out.’”

USU nutrition program alumni who are pursuing medical careers include Amber Astle (above and right), Daniel Brandley (top left), and Kolton Astle (left). Photos by Bronson Teichert.
When Brandley learned that nutrition science fulfilled all the prerequisites for medical school, on top of available scholarships, leadership development, and research opportunities for students, he made up his mind.

“Nutrition science is built for pre-health professionals,” Brandley said. “It’s built for dental students, PA (physician assistant) students, and doctors. The degree is set up to get your prerequisites so that you can take your entrance exam and get into medical school while also getting a nutrition background. They really tailored it, which is perfect.”

Most pre-med students earn undergraduate degrees in biology or chemistry, but when applying for medical school, students need tools in their belt that will give them an edge over their competition.

“Being from the College of Agriculture and Applied Sciences and taking a nutrition approach, I can help people make long-term lifestyle changes,” Brandley said. “I want to be the kind of doctor who works with patients and uses my nutrition background to say, ‘Hey, how can we help you prevent disease, rather than just giving you pills to fix it?’”

Brandley said there were close to 4,000 applicants to the University of Utah medical school the year he applied. Having a slightly unusual bachelor’s degree in nutrition, leadership experience as a CAAS ambassador, and having worked closely with professors, Brandley is now one of the 120 students accepted in the year he applied.

“I’ve realized the value of having a good instructor,” Brandley said. “Someone who is ready to teach you and is passionate about the subject. I found that with every instructor in the College of Agriculture and Applied Sciences. They love their jobs, they’re doing research, they’re teaching, they’re out practicing, and that was huge.”

Applying for dental school wasn’t much different for USU nutrition alum Kolton Astle, now in his third year at the Roseman University College of Dental Medicine.

“When I got the invitation to come and be one of the people that interviewed, they said that out of 2,500 applicants, they were interviewing one in six,” Astle said. “From there, our class size is about 82. It was very competitive to get into, but I was able to get a bachelor’s degree and three minors because the nutrition program had everything I needed.”

Aastle said his original plan was to major in biology, but one of his friends told him about the nutrition pathway to the medical field and that more than a half a million dollars in scholarships is awarded to CAAS students every year. (An amount that increased to over $700,000 in 2019-2020.)

“I think it really prepared me to be here because of nutrition science,” Astle said. “I’m dealing with the oral cavity as a dentist and that is just the entrance to health in my opinion.”

For USU alumna Amber Astle, nutrition was her first interest, so the nutrition science program was an obvious fit. Now a physician’s assistant student at Rocky Mountain University, she said the teachers and classes at USU taught her how to study and be a good student, but also gave her a foundation for future opportunities.

“It’s where I learned that I had an interest in pursuing a degree to become a physician’s assistant,” Amber said. “It really helped me to know what it takes to get into the medical field.”

Amber agreed that a nutrition background helps applicants become well-rounded, but her education at USU prepared her with tools to help future patients, create impact, and maybe even change the world.

“You’re not doing yourself any favors by taking the traditional route to medical school unless that’s something that really speaks to you,” Amber said. “If you say, ‘I picked nutrition, because that’s something that I really have a passion for and that I want to pursue as part of the field I want to go into,’ that lets them (admissions board members) know that you’re committed to what you’re doing and it helps you in your future practice.”
AVIATION PROGRAM

Takes Flight in Price

BY BRONSON TEICHERT
Utah State University pilots-in-training are once again flying over the desert landscape of the San Rafael Swell in southeastern Utah as the aviation program manages rapid growth.

USU’s aviation program had a temporary presence in Price during World War II and into the 1990s. Fast forward to 2019, and the Logan-Cache airport runway is busy with the program having grown from 160 students to 360 in five years.

Ashley Martinez, assistant chief flight instructor at USU Eastern, said Price is the perfect place to expand the program. Cache Valley gets more snow than Price and winter inversions that reduce visibility can be challenging when training new pilots. Martinez said Carbon County has ideal flying conditions almost year-round.

USU Eastern has smaller class sizes, less air traffic, and lower tuition, including in the aviation program. Martinez said students receive the same training as those at the Logan campus, even though the first two years of their study are spent in Price. Students then make the move to USU’s Logan campus for their final two years.

Martinez was raised in Price and dreamed of becoming a pilot even when she was a little girl who constantly read books on how those “big fat machines got up in the air.” Her first experience on a plane came when her mother gave her a ticket to San Antonio as a 15th birthday present and she flew to visit an aunt there. Martinez said that experience absolutely solidified her dream of becoming a pilot.

As a Price native and a graduate of USU’s aviation program, Martinez takes pride in seeing the new program in action. The first class began just this fall semester, but Martinez is impressed with the group of young pilots in the program.

“We have extremely motivated students,” Martinez said. “They’re on top of their homework, they’re actually working ahead of schedule to keep flying. I’m seeing successes in every single flight with these kids.”

Most of USU Eastern’s student population comes from Carbon County and surrounding areas, but there are also students from as far as Anchorage, Alaska, like aviation student Eli Mckenzie.

“After touring other schools, it felt like I was less of a student and more of like a number,” Mckenzie said. “I just felt like this was a smaller program. I felt like there’s more one-on-one with your instructors.”

Most aviation students, like Mckenzie, don’t just decide to become a pilot when they reach college – it’s something they dream of for years. The Alaska native felt pressure to enroll in other schools, but knew he wouldn’t get to fly a plane until after his first year on top of paying higher tuition.

“I get it,” Martinez said. “It’s hard work and I understand that, but I couldn’t see myself doing anything else. I just love it.”

Carbon County Commissioner Casey Hopes said Price and surrounding communities are seeing declines in jobs historically available at the area’s coal mines and powerplants. He sees students on USU Eastern’s campus as a critical resource for the future of the area.

“Those students become ambassadors for our community,” Hopes said. “They’re the entrepreneurs of tomorrow. They’re the business owners of tomorrow.”

The campus in Price has been a driving force to unite local business owners according to Hopes. He said the new aviation program is another tool to help grow the local economy.

“It’s been a great process, especial-

“We have extremely motivated students. They’re on top of their homework, they’re actually working ahead of schedule to keep flying. I’m seeing successes in every single flight with these kids.”

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Eli Mckenzie (left) is among the students in the new aviation program at USU Eastern in Price. Assistant Chief Flight Instructor Ashley Martinez (right) is a USU aviation graduate and has returned to her hometown to teach what she loves. Photos by Bronson Teichert.
Eleven is an awkward age for most boys. For Phillip Lundell it was the age he lost his right arm and right lung in a hunting accident. He was close to death in a hospital for nearly a year; then came the hard part.

“My father was right-handed so he had to learn how to do everything not only with one arm, but left-handed,” said his daughter Andrea Powell. “Equally hard for my grandparents was intentionally not helping him too much. They knew that if he was going to learn to be independent, they couldn’t keep stepping in to help him.”
Most of his shoulder was also lost in the accident so there was no chance of a prosthetic arm then or in the future, Powell explains. He kept working on the family farm and learned to use a shovel, hammer and all the other tools of farming with his left arm. Farming was his side job while working for the Utah Department of Transportation (UDOT). He knew he couldn’t support a family and have medical benefits being a farmer. Though he had no formal engineering training, he observed processes and figured out how things worked.

“Figure it out and get it done” became his mantra,” Powell said. “He went on to a 40-year career as a project engineer with UDOT. If you drive on Utah I-15, you have driven many stretches of highway he helped build. The memorable stretches for me are Point of the Mountain and the section near Nephi. Longtime Utah residents might remember the area was once referred to as the ‘Nephi Death Strip’ because it was the last dangerous stretch of two-lane highway connecting the north and south parts of the interstate.”

To honor their tough, determined father who passed away at age 68, the Powells recently made a donation to start the Phillip and Janice Lundell Scholarship. “We appreciate farmers because farming is a pure act of faith,” Powell said in her remarks at the 2019 College of Agriculture and Applied Sciences Awards and Honors Banquet. “You put seeds in ground or care for a newborn animal hoping for a successful outcome. You are at the mercy of weather, the marketplace, and just plain luck.”

Likewise, the Gary D. Powell Track and Cross Country Scholarship was a donation designed to reward struggle and determination. “Our track and cross country scholarship qualifications are also specifically written to help returning students,” she said. “We want to help students who are coming back after time away from school to have children, work, serve a church mission, or give military service. We specifically chose cross country because my husband Gary ran cross country and knew how much discipline it took.”

The Lundell property where Phillip was born is still a working farm in Benjamin in south Utah County. It was designated a Utah Century Farm in 1996 by the Utah Farm Bureau and Utah Department of Agriculture and Food, and is still worked by Powell’s brother, Neil Lundell. Her mother, Janice Lundell, lives in Payson and at age 88 still mows her own lawn and volunteers at Mountain View Hospital where she has logged 10,000 volunteer hours.

Powell left guests at the CAAS banquet with a challenge. “If you want to remember my father, I challenge you to go home and try to tie your shoe with one hand.”
Jim Thomas makes you simultaneously want to be a better person and feel bad about yourself. On the two days I interviewed him he walked up the four flights of stairs to my office after finishing his round of Meals on Wheels deliveries and apologized for being a few minutes late. He introduced himself as “I’m older than I look.”

“I retired 18 years ago, but continue to work and represent Utah State University in various countries,” Thomas said at the 2019 College of Agriculture and Applied Science Awards Banquet. “I became an Aggie 65 years ago, and in 1954 tuition was $30 a quarter. I could not have asked for a more rewarding and enjoyable career.”

The career that has taken him all over the world started in Canada. Thomas was raised on a small irrigated farm and attended grades 1-12 at Glenwood High School, where he was student body president for the 1953-54 school year. He graduated second in a class of seven.

James attended Utah State University for two years before serving a mission for the Church of Jesus Christ of Latter-day Saints in South Africa. After his mission, James married Marilyn Rae Card and returned to Logan to again attend USU where he earned bachelor’s and master’s degrees. He completed a doctoral degree at the University of Alberta.

“I graduated in 1961 with bachelor’s of science in agricultural education,” Thomas recalls. “Then in 1963, I finished a master’s in crop production. In 1969, I joined the USU faculty. I was hired on one condition: that I would go to Bolivia. That was the start of my international career.”

James and Marilyn took their family and served USU on additional long-term agriculture missions – Iran (2 years), Egypt (2 years), India (3.5 years), and the West Bank (2 years).

“I couldn’t have done it without Marilyn, who was ready to be out the door whenever there was a new opportunity. She took care of five children and loved all the international activities,” Thomas said. “Our children were baptized in five different countries.”

In most of these assignments, Thomas said he served the people of each country by helping them increase their food supply. He did this through teaching and helping them develop and adopt agricultural practices that greatly increased the quality and quantity of the food they grew.

“Not everyone appreciates how long USU has been involved in international work,” he said. “As early as 1910, then President John Widtsoe, was sending faculty to Iran and bringing students here. In my travels I have found that USU is well known and books written by our faculty appear in libraries around the world.”

On other assignments, his service was administrative. For example, in the West Bank—as senior advisor to the university president—he helped develop the Arab American University of Jenin, a technical university for the Palestinian people which was constructed in 2000 and currently has 6,500 students.

“That assignment in Palestine is one I’m especially proud of,” Thomas said.
“The university is still thriving and more than half the students there are women; think about that…in a predominantly Muslim country.”

During the times he was on the USU campus, Thomas served as USU director of international programs, and associate dean of agriculture. He was honored as the College of Agriculture Professor of the Year in 2002, the same year he retired from USU. After retiring, James could not be kept from international service. He and Marilyn served a proselyting mission for the Church of Jesus Christ of Latter-day Saints in the Puerto Rico San Juan Mission. They also served a technical mission for Latter-day Saint Charities, evaluating humanitarian programs in Cambodia, Croatia, Serbia, Bosnia, Herzegovina, Kosovo, and Montenegro.

“My family have been Aggies a long time,” Thomas said. “I have two brothers, four children, my wife Marilyn, two grandchildren, and two sons-in-law who have earned degrees at USU.”

“Education is what lights the fire within us to do great things. Utah State University has helped ignite that flame within our family for generations. We take great pride in calling ourselves Aggies as we are true agriculturalists. Our family business, Cranney Farms, just completed its 112th harvest.

“Portraying the role of a client in simulations for the veterinary school has afforded the opportunity to engage with students who have a profound dedication to the welfare of all animals. No matter the malady, each individual is determined to master the diverse skills and disciplines that will be required to serve patients as they progress toward their future careers.

“AS A DEVOTED ADVOCATE OF THESE ‘POTENTIAL HEALING EXPERTS,’ IT IS MY PLEASURE TO GENTLY FINANCIALLY NUDGE THOSE DREAMS INTO REALITY.”

— Barbara Troisi

“WE HAVE BEEN GREATLY BLESSED AND FEEL OBLIGATED TO GIVE BACK TO THE ALMA MATER THAT INSPIRED US. WE WANT TO SEE THE NEXT GENERATIONS OF STUDENTS BE AFFORDED THE SAME OPPORTUNITIES THAT WE HAVE.”

— The Cranney Family
In an effort to better serve students in the largest department in the College of Agriculture and Applied Sciences (CAAS), and to advance career and technical education programs, particularly in southeastern Utah, CAAS Dean Ken White and USU President Noelle Cockett announced in October that the School of Applied Sciences, Technology and Education (ASTE) has been divided.

Professor and Head of ASTE, Bruce Miller, continues to lead programs in the Aviation and Technical Education (AVTE) division, and Associate Professor and Associate Department Head Rebecca Lawver, has been appointed interim head of ASTE.

Under the new administrative structure, Lawver oversees programs that train future secondary school teachers of family and consumer sciences, technology and engineering, agriculture, and business education. She leads programs in outdoor product design and development, agricultural communication, agricultural machinery technology, and agricultural systems technology.

Miller continues to lead aviation, general technology, technology systems, and an array of certificate, associate’s degree programs in career areas including automotive technology, building and construction management, heavy equipment and trucking operation, cosmetology, health professions, IT support and web development, welding, and general technology. Many programs in the new division are offered at USU Eastern in Price, USU Blanding, and USU Moab.

The change supports President Cockett’s priorities of making post-secondary education accessible to underserved populations and communities across Utah and enhancing student success through experiential learning. It also bolsters efforts to fulfill a 2019 mandate from the Utah Legislature that USU’s southeast campuses redefine career and technical education (CTE). The senate bill also supports altering the university’s tuition structure for CTE programs, and provides ongoing funding for new CTE programs in southeastern Utah.

ASTE currently has 1,432 students. Following the change, Lawver will oversee programs for 574 students: 510 undergraduate and 64 graduate students. The new division, under Miller’s direction, has 858 students: 852 undergraduates and 6 graduate students.

White told the department’s faculty and staff that the change is a direct reflection of great faculty across the state who are innovative and creating programs and opportunities that students need and want to be part of. And while growing programs present some challenges in terms of classroom, shop, and laboratory space, growing programs present the kind of problems he likes to have and solve.

Miller has served as ASTE department head since 2004. Since that time, the department has acquired and developed a number of programs that serve students by focusing on areas of economic opportunity for graduates. Lawver came to USU in 2010 as an assistant professor of agricultural education. Prior to that, she was an instructor at the University of Missouri and taught high school agriculture for 9 years in Nebraska. She has received numerous regional and national awards for outstanding teaching and mentoring. △
Most of the time people think disability is a physical or mental condition that limits a person’s movements, senses, or activities. In other words, disability is a condition that limits a person...which is wrong. Disability is not a condition that someone has that limits them. Rather, disability is the experience someone has of being limited by the conditions around them.

I’m a designer, and as a designer I am trying to change existing conditions into preferred ones. The question that most concerns me is what is the result of the conditions I’m creating? Limitations or possibilities?

A community’s built form—the human-made surroundings that range from buildings and parks or green space to neighborhoods and cities—establishes the conditions of possibility for how people live in the place. A supportive environment provides opportunities for self-determination and facilitates participation in everyday activities and relationships. These communities’ built forms establish conditions which foster belonging and quality of life. The opposite is also true, and unsupportive environments can make it difficult to participate in the activities of daily life and lead to people feeling isolated and marginalized.

Rarely is one community supportive and another unsupportive. Most communities are both: many of their members are supported and some are not. In particular, while people with disabilities live in communities, they may often still not be a part of their community. They are in the community, but not of it. Why? At least in part, because the conditions established by the built form of the community create limitations to their participation.

People with disabilities have long advocated for greater participation in their communities. The built form of communities encompasses many of the supports key to including individuals with disabilities; access to public accommodation and services including recreational, educational, commercial, and civic and social activities, employment opportunities, appropriate housing, and convenient transportation access. These are the activities of daily life. Community planning and design professionals work toward many of these aspects of accessibility, calling their efforts walkability, transportation equity, transit-oriented development, Complete Streets, aging-in-place, placemaking, etc. But if you bring everything together, carefully planning and designing the conditions of the community to eliminate environmental barriers to people with disabilities, fewer people will be left out of the life of the community.

My colleagues and I work with our students to change the existing conditions of communities into ones that foster belonging and quality of life for all their members. It is the responsibility of every designer to create just and equitable environments.

Are you a designer? Are you trying to change existing conditions into preferred ones? What part of the community are you designing? Are you creating conditions of possibilities? Working to together, each of us that contributes to our community can build a stronger, more just, and equitable future for our community.

Keith Christensen is an associate professor of landscape architecture. He is co-principal researcher on a $2.5 million project aimed at creating planning frameworks that will help communities provide better access to people with disabilities, funded by the National Institute on Disability, Independent Living, and Rehabilitation Research.
Nominate a College of Agriculture and Applied Sciences Graduate

FOR INDUCTION INTO THE CAAS ALUMNI HALL OF HONOR

Past honorees include alumni who have built outstanding careers in agribusiness, science, medicine, government, and education.

Nominees must have:

• A degree from a department in USU’s College of Agriculture and Applied Sciences
• Made significant contributions to society or a profession
• A record of outstanding achievements
• At least 25 years of employed service at the time of nomination

Please help us select the 2020 honoree by submitting a nomination by May 23, 2020.

Details are on the CAAS website at caas.usu.edu/awards/alumni-awards

For more information, contact Jean Edwards
435-797-2205 | jean.edwards@usu.edu