

Department of Animal Sciences and Agricultural Education 2020-2021 Annual Report

Departmental Accomplishments

The students, staff and faculty in the Department of Animal Sciences and Agricultural Education had many significant accomplishments during the academic year of 2020-2021. We have approximately 800 majors in the department. We are serving these students with the same number of tenured and tenure-track faculty as compared to when we had 250 majors.

In our opinion, we have one of the most active departments on campus in terms of student clubs, competitive teams and other “out of classroom” activities. Most of these activities require a considerable time commitment from our faculty and staff and many times these commitments are during evenings and/or weekends. We are fortunate to have a very dedicated group of faculty and staff, including Ms. Debbie Russell, an extremely hard working and very dedicated administrative assistant.

Our faculty and staff serve as advisors and support personnel to fifteen different student clubs or organizations within our department: Jordan College Ag. Ambassadors, Dairy Club, Poultry Science Society, Meat Science Club, Young Cattlemen’s Association, Pre-Vet Club, Red Wave Classic Show and Sale, Bulldogger’s Rodeo Club, Equine Science Club, Meyers Livestock Judging Team, Meats Judging Team, Dairy and Swine Show Teams, Farm Bureau Discussion Meet and FFA Field Day Committee.

The department accomplishments this year were highlighted by one of our graduate students, Mr. Tim Truax. receiving the Graduate Dean’s Medal for the Jordan College. Tim is also a graduate of the Jordan College Honors Program. We are extremely proud that two of our faculty members, Dr. Amanda McKeith and Dr. Avery Culbertson continue to do an outstanding job of teaching the courses associated with the Honors Program. In addition, our department continues to have a high number of students accepted into the Honors Program and a high number of faculty members serve as mentors to these outstanding young professionals.

With Covid, it has been a challenge traveling to state and national contests with students. However, we have stayed as active as we could with the following teams during these challenging times:

- Livestock Judging Team – coached by Mr. Brad Mendes
- Farm Bureau’s Discussion Meet Team and Individuals coached by Dr. Steve Rocca
- Men’s and Women’s Rodeo Teams – coached by Mr. Uhuru Adem
- Dairy Challenge Team and Dairy Show Teams – coached by Dr. Kyle Thompson

This year we had a number of our pre-vet students gain admission into veterinary school programs, another very significant accomplishment. Dr. Gayle O'Bannon deserves much of the credit for this accomplishment. She and Dr. Fabio Iared do an outstanding job advising our "Pre Vet" students, the largest emphasis area within our department.

We continue to host our Animal Sciences Advisory Committee for one meeting per year. This group of industry leaders has provided some very valuable input to our department and we look forward to their input in the future. The Ag. Education Advisory Committee continues to provide valuable advice to our Ag. Education faculty as well.

We continue to use the services of Mr. Geoff Thurner a great deal. He along with the Advising and Career Development Center have been great additions to the Jordan College, in our opinion. The same comments are true for Alcidia and Shannon and the other folks at Ag One.

Dr. Amanda McKeith has energized our graduate program. Because of her leadership, we believe the quality of the program has increased greatly. She along with Dr. Steve Rocca were successful in redesigning our graduate program a few years ago. This new program allows us to offer a graduate degree in Agricultural Education, a goal of ours for many years.

Dr. Rocca and Dr. Sherri Freeman continue to do an outstanding job in coordinating the Jordan College Ag. Ambassadors. Approximately 70 students were involved with this activity this past year.

We now have a large number of part-time and full-time lecturers that have been great additions to our faculty. On the Animal Science side of our department, Mrs. Judy Henson, Dr. Gayle O'Bannon and Mr. Brad Mendes are all full time lecturers. Part-time lecturers include Ms. Emma Briggs, Mr. Jason Contreras, Ms. Michelle Ganci, Dr. Fabio Iared, Dr Paul Maxson, Ms. Stephanie McKenna, and Mr. Ryan Person. We also had a number of graduate students that taught courses or assisted with laboratories for animal sciences courses.

On the Agricultural Education side of the department, full-time faculty members were assisted by 1 full-time lecturer: Mrs. Jesse Bower, and four part-time lecturers: Mrs. Kassie Mendes, Mrs. Susan Henderson-Perry, Mrs. Shay Williams-Hopper and Mr. Kevin Woodard.

This group of lecturers along with our tenured and tenure track faculty members from both sides of the department bring a great deal of industry experience into the classroom. This industry experience is extremely important. Our own observations over the years have indicated to us and student comments continue to reaffirm our beliefs that students can grasp difficult scientific principles easier if professors have the ability to show the application of the information in "real world" situations.

This past fall, we had 1700 individual students enrolled in courses that had the opportunity to fill out a course evaluation using the new system that the University developed. Six hundred and eighty three students submitted evaluations resulting in a response rate of 40.2%. The departmental averages were outstanding. As an indication of the quality of teaching in our department - on a scale from 1 to 5, the departmental averages in the following areas were as follows: Overall score competency – 4.45; Instructional design competency – 4.60; Instructional delivery competency – 4.44 and Assessment score competency – 4.35.

The FFA Field Day and State Finals events were not hosted on campus this year. However, we did host a number of virtual contests. Faculty members in our department were personally involved in coordinating 8 different state finals virtual contests. Many of these contests, in the past, have been hosted by other institutions within the state and therefore were not our responsibility. However, faculty members in this department “stepped up” to provide meaningful educational opportunities for these students when faculty members at other institutions within the CSU did not do so.

Our Agricultural Education Program was successful in credentialing 40 new teachers, the highest number ever. Faculty members in that area represented the Jordan College at a number of different regional, and state-wide meetings and events.

The Red Wave Classic Junior Livestock Show was again very successful and well attended. It is one of the largest junior livestock shows in California. This past year, the number of livestock entries exceeded 1000 for the fourth consecutive year. This activity serves as a tremendous recruiting activity for our department and the college in general. This year it was hosted by the Big Fresno Fair. Our faculty and students were heavily involved like they have been in the past.

In the past, we have hosted approximately 4,000 elementary school students each year for a tour of the farm laboratory. Covid caused these tours to be discontinued but we look forward to getting this program started back up in the Spring of 2022.

Our faculty are very engaged in local, state and national industry groups and advising boards. In addition, many of our faculty judge livestock shows and other competitive activities on a local, state, regional and national level. This involvement not only adds visibility and credibility to our program but also is effective in recruiting many outstanding students to not only our department but other departments within the Jordan College as well.

We were very excited when our newest faculty member, Dr. Sherri Freeman, was able to secure a \$1 million dollar grant to study the development of “soft skills” in students that are involved in agricultural and other programs. Although Covid challenged us in many ways, we feel the department had a very successful year that was highlighted by our faculty, staff and students achieving many great things.

Progress on 2020-2021 Goals

Agricultural Education

1. Complete long-term planning for Agricultural Education Vision for the Future - **Continual progress made.**
2. Continue to strengthen the Agricultural Communications option – **Continual progress made, over 50 students in the Ag. Communications Option this past year.**
3. Continue to strengthen the Agriculture Leadership Program – **Continual progress made, Dr. Culbertson taught three Ag Leadership courses and three students completed the certificate program.**
4. Maintain the number of agriculture teacher credential candidates – **Exceeded goal, 40 students completed the requirements for the Ag Single Subject and Ag Specialist Credentials.**
5. Recruit and select Agricultural Education graduate students – **Achieved goal, five Ag. Education students were recruited and enrolled in the Master's program this past year.**
6. Revise and submit the Student Outcomes Assessment Plan – **Continual progress made.**

Animal Sciences

Goal #1. Investigate the opportunities to share some graduate courses with other institutions within the CSU System

Some progress – Dr. Amanda McKeith has contacted other institutions within the CSU and they are investigating the opportunities for the sharing of graduate courses.

Goal #2. Stabilize undergraduate enrollment

Some progress – it is too early to tell but it appears that we have made some progress on stabilizing our undergraduate enrollment

Goal #3. Maintain graduate program enrollment at 10 students allowing us to graduate 5 students per year

Significant progress – we currently have 14 students enrolled in our graduate program. That includes students in both Animal Sciences and Agricultural Education.

Goal #4. Continue to upgrade Farm Laboratory units

Some progress – This is a never ending task. Dr. Kyle Thompson at the Dairy Unit has put forth a lot of effort and has been very successful in getting equipment and other in-kind donations that have resulted in significant upgrades to that unit.

Goal #5. Continue outcomes assessment activities

Continual progress - Our department continues to be engaged in outcomes assessment activities.

Goal #6. Continue to engage in fundraising activities

Limited progress - Covid has made it difficult to engage in some of our regular fundraising events and activities. We look forward to this fall and hopefully re-activating those activities and events.

Goal #7. Continue efforts to eliminate “bottleneck” courses in our curriculum

Significant progress – the department has made significant progress in addressing our bottleneck courses. Most of these courses are lower division courses. When we started seriously addressing this issue a number of years ago most of the students that were enrolled in these courses were juniors and seniors. Now most of the students enrolled in these courses are sophomores. Thus they are being able to take these courses at the appropriate stage in their academic career. Good advising from the advising center combined with significant increases in course offerings has resulted in this progress.

2021-22 Goals

Agricultural Education

1. Complete long-term planning for the Agricultural Education Vision for the Future.
2. Develop a plan/proposal for a tenure-track faculty position in Agricultural Education.
3. Continue to strengthen the Agricultural Communications option and develop a plan for a new Agricultural Communications faculty position.
4. Continue to strengthen the Agriculture Leadership Program and increase student enrollment in courses.
5. Maintain the number and quality of agriculture teacher credential candidates.
6. Recruit and select at least 3 new Agricultural Education graduate students.
7. Revise and submit the Student Outcomes Assessment Plan for Ag. Communication.

Animal Sciences

1. Re-activate our programs back to what they looked like prior to Covid.
2. Incorporate the positive things that we learned during Covid and incorporate those to strengthen our programs
3. Continue to investigate the possibility of sharing graduate courses with other institutions within the CSU System
4. Continue to stabilize undergraduate enrollment
5. Continue to maintain graduate program enrollment at a minimum of 10 students allowing us to graduate 5 students per year

6. Continue to upgrade Farm Laboratory units
7. Continue outcomes assessment activities
8. Continue to engage in fundraising activities
9. Continue efforts to eliminate “bottleneck” courses in our curriculum

Challenges

The major challenges that we faced this academic year were all related to Covid.

- 1) Continuing to offer all of our lectures in a virtual format was easily our greatest challenge this past year. I believe that most of our faculty have done an outstanding job of making this transition.
- 2) Supervision and mentoring student teachers continued to be a very significant challenge for our Ag. Education faculty. One of the major strengths of our Ag. Education program versus some of the other programs in the state is that we still require two semesters of student teaching. The first semester is part-time and the second semester is full-time student teaching. It was difficult when these student teachers for the most part were not able to teach in a traditional “face to face” format.
- 3) Covid also impacted our ability to raise funds for programs and activities within our department. Many of our fund raising activities such as our tailgates, Meat Science Dinner, and Rodeo Team Dinner were all canceled. In addition, it impacted our ability to meet with potential donors and develop new relationships.

Opportunities

In my opinion, our greatest opportunity for this next year is how we take the things that we learned during Covid and incorporate those into our programs as we move forward and transition back to what I like to call “Pre Covid” conditions. I believe that we can take the materials that we developed for virtual instruction and incorporate those into our instructional programs to make our courses better than what they ever were prior to Covid.

Graduation Initiative 2025

In our department, we take great pride in trying to be very engaged with our students and most of our faculty members take a very active role in advising. Terence and Tahler from the Advising Center have done a tremendous job in providing advising to both incoming and continuing students.

Our department was very engaged with Ms. Mary Willis and we have continued that level of engagement with Mrs. Imelda Dudley, the Jordan College Internship Coordinator. Imelda has done an outstanding job in our opinion, expanding the internship opportunities for students in the Jordan College.

In our department, we do have two orientation courses. ASCI 68 – Pre Vet Orientation is a course that Dr. Thomas developed many years ago. Dr. Gayle O’Bannon and Dr. Fabio Iared do an outstanding job with this course. We added ASCI 2 – Animal Sciences Orientation a few years ago. This is a course that our advisory committee wanted us to add to our curriculum. Both courses help us greatly to get our students oriented and “on track” to achieve academic success during their collegiate careers.

In our department, we have a number of courses that incorporate what the University describes as “high impact practices.” Many people believe that these practices positively impact student success. The following animal science courses have laboratories and use high-impact “hands-on” activities during the laboratory sections of these courses:

A Sci 11	Livestock Selection and Evaluation
A Sci 21	Beef Cattle Production
A Sci 31	Swine Production
A Sci 35	Feeds and Feeding
A Sci 41	Sheep Production
A Sci 51	Horse Production
A Sci 56	Colt Training
A Sci 61	Dairy Cattle Production
A Sci 71	Meat Science
A Sci 81	Introduction to Livestock, Dairy and Meats Evaluation
A Sci 91	Poultry Production
A Sci 121	Advanced Beef Management
A Sci 131	Advanced Swine Management
A Sci 145	Anatomy and Physiology of Farm Animals
A Sci 146	Physiology of Lactation
A Sci 151	Advanced Horse Management
A Sci 153	Stable Management
A Sci 156	Artificial Insemination and Embryo Transfer
A Sci 161	Advanced Dairy Farm Management
A Sci 171	Advanced Meat Science
A Sci 172	Meat Technology
A Sci 181	Advanced Livestock and Dairy Evaluation

The following animal science courses do not have laboratories but have implemented high-impact practices. Some of these courses include group projects that incorporate team-building skills, student group presentations and outside of classroom activities and/or projects:

A Sci 67	Animals and Society
A Sci 94	Agri Internship
A Sci 101	Environmental Management of Farm Animals
A Sci 125	Animal Genetics
A Sci 135	Animal Nutrition
A Sci 163	Dairy Cattle Nutrition

A Sci 164 Dairy Challenge
 A Sci 180 Undergraduate Research

The following agricultural education courses have implemented high impact practices as described:

AGED 115 - FFA Activities - students plan, organize and deliver three different FFA events which host approximately 3,000 high school students from across our state on our campus and farm laboratory for career development competitions.

CI 161 - Methods and Materials in Agricultural Education - Redesigned course and course materials for eDiscovery program. This course follows a flipped format where students utilize tablet technology to acquire information and apply their knowledge during “in class” discussions and activities.

AGED 150 - Agricultural Resources and Computer Applications - students utilize desktop computers, laptops, tablets and smart phones to complete tasks associated with their future career in Agricultural Education.

Listed below in the first column is the number of majors for each option area in our department in the Fall of 2020. The second column lists the % of majors in those specific areas that applied to graduate during the 2020-21 academic year.

Ag Ed. – Ag. Communication	57	8.8%
Ag. Ed. – Teacher Preparation	204	27.9%
Ag. Ed. – Undergrad.Total	261	
Asci – Dairy Science	27	18.8%
Asci – Equine Science	59	9.2%
Asci – Livestock & Poultry Mgt.	113	32.1%
Asci – Meat Technology	14	40.0%
Asci – Pre-Professional	86	16.3%
Asci – Pre Vet.	103	14.4%
Asci – Pre Vet. Admissions	108	
Asci Total – Undergrad. Total	510	
ASAE Undergrad. Total	771	21.5%
Ag Science M.S.	13	
Post Bac. – Ag. Credential	47	
Department Total (Grad. & Undergrad.)	831	

The 1st Year Retention Rate for students that entered the University as First-Time-Freshmen (FTF) during the Fall of 2018 was 87.7%. Over the most current five-year period, that number varied from 81.3% to 87.7% and the average for that five-year period was 84.8%.

For students that entered as Transfers during the same semester, the retention rate was 100% and varied from 86.5% to 100.0% for the most current five-year period and the average over that five-year period was 92.7%.

The 4 Year Graduation Rate for students that entered the University as FTF during the Fall of 2015 was 23.4 % and that number varied from 14.3% to 23.4% for the most current five-year period. The average for that time period was 17.5%.

For students that entered as transfers during the same semester, the 4 Year Graduation Rate was 90.7% and varied from 70.0% to 90.7% during the most current five-year period. The average for this five-year period was 78.9%.

The 6 Year Graduation Rate for students that entered the University as FTF during the Fall of 2012 was 52.6 % and that number varied from 52.6% to 65.2% for the most current five-year period. The average for that time period was 61.2%. This is the only number that is not trending in the right direction. If this numeric value continues to trend in the wrong direction, it will have to be evaluated very seriously in future years.

A few demographics of our majors are as follows: Females – 81.1 %; Males - 18.9%; Hispanic – 48.4%; and White 37.7%. No other group represented more than 3.1% of our students.

Faculty members in this department are either leading involvement for the Jordan College or taken a very active role in programs such as STEAM and Ag Bond. Both of these programs should also help with student success in future years.

Advisory Committees

Agricultural Education

Mr. David Caetano – Chairman	Ag. Teacher – Tulare High School
Ms. Laura Hanson	Ag. Teacher – Sanger High School
Ms. Shay Williams-Hopper	Regional Supervisor – San Joaquin Region
Mr. Charles Parker	State Supervisor – FFA Advisor
Mr. Matt Patton	Executive Director – CATA
Mr. Sam Meredith	Ag. Teacher – Atwater High School
Mr. Nick Deftereos	Instructor – Reedley College
Mr. Ed Wentzel	Distributor – Novartis Seeds
Mr. Chris Williams	Ag Teacher – Central West High School
Ms. Liz Hudson	Communications Specialist

Animal Sciences

Mr. Paul Gillum – Chairman	Certified Meat Products and Gillum Family Farms
Mr. Phil Waddell – Vice Chair	Foster Farms Commodities Division
Mr. Jim Brem	Brem Livestock Company and Farmers Feed
Mrs. Shelley Cumming	Central Valley Meat Company
Mr. George (Hop) Estes	Estes Club Lambs
Mr. David Lopes	Instructor – Reedley College
Mr. Jim Maxey	JD Foods
Mr. David McGlothlin	Equine Specialist
Mr. Steve Shehadey	Producers Dairy
Mr. John Toledo	Tri T Farms and Toledo Ranches
Dr. Kristen Walert	Private veterinary practice

Publications

Freeman, S., Culbertson, A., & Truax, T. (September 2020). California State University, Fresno successfully delivers a USDA Ag. Discovery Program utilizing experiential learning in a virtual environment. Poster abstract, Proceedings of the 39th annual Western Region Agricultural Education Research Conference, Online.

Freeman, S., De Lay, A., Thomason, J., Ermis, G., & Spiess, M. (May 2021). Teaching in pajamas: new teacher's reflections about teaching through a pandemic. Poster abstract, Proceedings of the AAAE annual National Agricultural Education Research Conference, Online.

Freeman, S & Moules, J. (May 2021). A longitudinal investigation of soft skill development of Agricultural Education students. Poster abstract, Proceedings of the AAAE annual National Agricultural Education Research Conference, Online.

Freeman, S., Rayfield, J., Murphy, T., Frazee, S., & Ritz, R. (September 2020). An investigation of soft skills development of Agricultural Education students in an FFA career development event. Poster abstract, Proceedings of the 39th annual Western Region Agricultural Education Research Conference, Online.

Hisasaga, C., S. E. Griffin, K. J. Tarrant. Survey of egg quality in commercially available table eggs. *Poultry Science*. 99:7202-7206. doi: 10.1016/j.psj.2020.09.049

Parveen, A., C. D. Jackson, S. Dey, K. J. Tarrant, N. B. Anthony, D. D. Rhoads. 2020. Identification and validation of quantitative trait loci for ascites syndrome in broiler chickens using whole genome resequencing. *BMC Genetics*. 21:54. doi: 10.1186/s12863-020-00859-x

Truax, T., Freeman, S., Culbertson, A., & Rocca, S. J. (September 2020). Are we preparing our students correctly? An employability skills analysis within a college of

agriculture. Poster abstract, Proceedings of the 39th annual Western Region Agricultural Education Research Conference, Online.