

External Review Report – BS Animal Science Program California State Polytechnic University, Pomona

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The purpose of this external review of the Animal and Veterinary Science Program is to provide an unbiased examination of the quality of education and service in the program, and to identify opportunities for improvement and growth. After carefully reviewing the program's Self Study, we took part in a campus visit on 9/12-9/13/22. We met with Martin Sancho–Madriz, Dean of the College of Agriculture; with Shelton Murinda, Chair of the Animal and Veterinary Sciences Department (AVS); with students in the program; with department faculty and adjunct faculty. This report is divided into sections on strengths, challenges, and recommendations.

Animal Sciences at Cal Poly has a very long and rich history. The University itself owes its very existence to animal agriculture via the direct donation of land from the Kellogg family. The program has now grown to over 1000 undergraduate students perusing one of two degrees, Animal Health Science and Animal Sciences. Animal Sciences which is the larger offers two options. The vast majority of students choose pre-veterinary science over animal industries management. The students themselves are a testament to the polytechnic system. They are largely from underrepresented populations and reside regionally in the Los Angeles and San Bernadino counties. These students are served by only 4 full-time faculty in the Animal Science BS program and over 15 part-time instructors. The program is almost entirely housed in building 2, the second oldest purpose-built structure on campus and in various equally dated animal facilities covering dozens of acres all of which are integral to the program. It is important to note this review entirely focused on the Animal Science BS as evaluation of the Animal Health Sciences BS is accredited by and regulated through the American Veterinary Medical Association's Committee on Veterinary Technician Education and Activities.

Strengths

During our two-day visit, interviews and facility touring we were able to identify unique features that strengthens the program:

- Cal Poly Pomona College of Agriculture and the AVS department have a unique heritage that evolved from the W.K Kellogg Institute of Animal Husbandry.
- The university is located withing a vast and diverse urban area and it is the only program of its kind in Southern California.
- The academic program review – self-study was well done and reflects mostly our evaluation of the program.
- The interactions with administrators, faculty, lecturers, and students were transparent, cordial, open and constructive.
- The student body is phenomenal, engaged and committed to the program. In addition, as the major is impacted, only students with very high GPAs get into the program.
- We found dedicated faculty that care for the students.
- Faculty have made a tremendous effort to be able to accommodate an overwhelming number of students.

- The success rate of admissions into professional veterinary school is high.

Challenges

- Exhausted faculty due to the overwhelming number of students (200:1 Tenured or Tenure track). The instruction mostly is supported by lecturers without a PhD. Therefore, the teacher-scholar model is not only compromised but almost impossible to enact. Because only tenure-line faculty participate in administrative, research and extra-curricular activities these stresses are multiplied exponentially.
- Students are stressed due to graduation delays as there are great difficulties registering for classes, long waiting lists to register to classes and difficulty trying to interact with faculty advisors due to the extensive advisee: faculty ratio.
- Animal facilities are for the most part unusable (swine unit, some small ruminant pastures, feed mill, meat processing plant and hay barns to name a few).
- Kellogg Equine Facility and associated horses and facilities are available and appear to be underutilized by AVS. There is not only a willingness but desire by personnel to engage with AVS faculty and students.
- Failed tenure track faculty searches, it is very difficult to recruit scientists and compete with other universities with the current infrastructure and limited opportunities for scholarly activities.
- Found an “interim-environment” at the college level that may limit the effectiveness of a strategic vision for the AVS department.
- Very limited industry interaction and or support for the Animal Sciences program.

Recommendations

- A strategic vision for the AVS department and particularly the Animal Science BS program is strongly encouraged. Within that strategic vision, focus is needed on the future of the department. Considering the strengths and challenges we found some areas that can be evaluated:
 - Animal Industries Management focus:
This program could be described as the “traditional” animal science. This scenario includes advanced understanding of animal biology and management of food producing animals. The AVS program had this focus in the past and involved 10-15 tenured/tenure track faculty members with expertise in different species and disciplines as nutrition, physiology, genetics to name a few.
Challenges: Location-poor demand? lack of adequate facilities, difficulty in faculty recruitment and retention, and limited scholarly activities for faculty growth.
The question would be “going back to the model of the past”?
 - Pre-Veterinary Science focus:
It appears that the current program focuses on this option as demonstrated by the number of students placed in veterinary schools and in the Animal Health Science program. Also, the curriculum is streamlined with few sub disciplines capstone courses or species-specific courses that facilitates this focus area.

Having said that, one needs to consider that the prerequisites for veterinary school come from other departments (chemistry, physics, mathematics etc), therefore the contribution of AVS to this set of students is limited in scope. Ninety nine percent of veterinary schools in the US do not even require a bachelor's degree, just the prerequisites and supervised animal experience.

Opportunity: The high academic quality of the students, the demand for veterinary school and the Animal Health Science are strengths that can be improved by creating partnerships with many veterinary schools around the country and internationally to place AVS students in their programs. Particular focus may be aimed to a Cal Poly-Western University partnership as many of the students at Cal Poly reside regionally and would prefer to stay. In addition, the curriculum can be modified to further improve professional veterinary education needs and increase success of students in the veterinary program.

- Urban Animal Agriculture:

Due to the geographical location, the changes in society regarding perception of animals and the strong biotechnology industry of southern California a new and novel focus can be explored. This may require partnership with other departments including sociology, psychology, physical therapy, and the biotechnology industry. In addition, the current animal facilities need to be modified for the purpose.

Opportunity: this new field is growing, there is a demand for it and potentially can have strong financial support from many stakeholders at different levels of society.

- Production agriculture with a focus on urban lifestyle and sustainability
 - Examples:
 - goats that mitigate wildfire danger, provide dairy products, provide meat products.
 - horses and sheep or goats raised in urban environment. The Kellogg facility is a great demonstration of how 70 large livestock are raised and well cared for on small acreage in a very urban setting with advantages to rotating small ruminants through intensely grazed pastures.
- Human-animal bond with focus on the value of animal companionship and related increase in quality of life
 - Example: the equine facilitated therapies. Might/should use the horses at and raised by Cal Poly
- Biotechnology with focus on raising animals to benefit human health and medicine through genetic modification
 - Example: pigs producing human compatible tissue, goats producing medical compounds in milk, antibody production.

We foresee the combination of the Pre-vet with the Urban Agriculture option as an alternative or modification to the current Animal Science option.

- The program as is now unsustainable. There is an urgent need of more tenure/tenure track faculty members. Even though, the lecturers are dedicated, committed, and are performing a good job, a

university science degree experience without the expertise of faculty with PhDs can be limited. We recommend utilizing the skills of lecturers to support the tenure track faculty.

- The hiring of new positions needs to be performed after a strategic vision and goals for the AVS department for the next 10-15 years are clearly defined. In addition, opportunities for new faculty for both, research growth and financial stability needs to be clearly outlined. Due to the location cost of living the maximum salary for respective rank should be offered with proper justification.
- The number of incoming students need to be studied at the department level, the current number of students for the number of faculty and facilities is overwhelming and not sustainable. If this continues the very reputation of Cal Poly will be adversely affected.
- After the strategic vision is clearly outlined and the department defines a vision for its future, we strongly suggest a meeting involving the AVS faculty, College Dean, Provost and President of the university to address the urgent issues and formulate a plan with the administration support. In addition, a petition at the Presidents' level is needed so the animal units are treated as classrooms and not as independent self-sustained units.
- We also suggest creating an initiative and execute strategic fundraising for the department based on the focus area(s).

Sincerely,

Jason E Bruemmer
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