

Summarized Review of Degree Program
Animal Sciences and Industry Doctoral (PhD) Degree
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1. Mission, Centrality and Uniqueness:

The Animal Sciences and Industry Department (ASI) is central to Kansas State University's Land Grant mission. The department's mission is to provide education, service and leadership to Kansas, national and international stakeholders through development, interpretation and dissemination of knowledge of animals for food, fiber, companion and recreational purposes; for safe, responsible, ecologically sustainable, and competitive food production. With 24 percent of the gross state product provided by food related industries, higher education degree programs in the Animal Sciences are essential for sustainability and profitability of the livestock and animal foods industries within the state, and where appropriate, the region, the nation and the world. ASI is the only department in the College and University offering B.S., M.S., or Ph.D. degrees related to the production, management and processing of animals for food, fiber, companion and recreation. No other department in the Regents system or state has the breadth of training associated with research and outreach opportunities for any of these degrees and none offer graduate degrees. The department has expanded its efforts in recreational and companion animals. This has enabled the department to reach non-traditional audiences and has enhanced the diversity of the department, especially in the percentage of females enrolled in the major.

2. Quality of Faculty

ASI has 40 tenure-track faculty within their missions of teaching, extension, research and international programs, with 14.98 instructional FTE. One hundred percent of the tenured/tenure-track faculty hold terminal degrees and most faculty have joint appointments between teaching, research, and extension. All faculty providing instruction at the graduate level hold appointments on graduate faculty, and 70% are certified to direct doctoral students. Among the graduate faculty are a Regents Distinguished Professor of Meat Science and the Lewis Endowed Chair in Ruminant Nutrition. There are commodity sections in dairy, poultry, beef, swine, sheep and horses. The department has 35 support persons and 39 additional classified staff. Scholarship responsibilities include providing leaders in all areas of animal agriculture and the food industry. In the last five years, faculty members have been recognized at commencement for winning 28 teaching-related awards and 41 total awards. Meat and Poultry magazine annually ranks the K-State ASI Department as #3 in the nation. Two ASI faculty have been recognized among the "Fifty Most Influential People" in the U.S. swine industry by the National Hog Farmer magazine. A Kentucky informal survey of farm animal nutrition programs ranked Kansas State third nationally in beef and swine and sixth in equine. Faculty members conduct original research and are highly published in the leading research journals in the discipline. Currently, there are 39 active grants in ASI and three active grants in the Food Science Institute with a collective awarded total of \$5.453 and \$2.453 million, respectively. These projects represent an array of government, industry and internally awarded competitive grants to support mainly research activities, although a few support extension objectives. Unrestricted gifts in support of research were \$212,400, \$252,000, \$350,000, \$321,700, and \$173,000 for years 2001 through 2005.

3. Quality of Students

The admission process is quite competitive, with approximately 15 applications reviewed annually to fill the 5-7 available positions in the program. The decrease in doctoral candidates in 2004-2005 is likely reflective of the 13% decrease in instructional FTE and the 19% decrease in tenured and tenure-track faculty during the same period. ASI does not require the GRE as part of the application process, thus there is not a good comparative metric for incoming student quality. All accepted students have completed BS degrees in Animal Science or related fields and many

have MS or DVM degrees at the start of their doctoral program. Outstanding placement of graduates into academic, post-doctoral, or industry positions would indicate the program is adding value to high quality students. Doctoral degree candidates completed their degrees in 43.4 months (std. dev. 9.0), with a median and mode of 42 and 40, respectively.

4. Employer Demand

Shortages of college graduates have been documented by the U.S.D.A. for graduates in the following curriculum areas: marketing, merchandising, and sales representatives; managers and financial specialists; and scientists and related specialists. Students graduating from ASI with a PhD degree are qualified to fill many those areas having employee shortfalls, with career opportunities in animal sciences ranging from self-employment to jobs with large corporations. ASI PhD graduates are most likely to be employed in industry in research and development positions or in technical service management positions. Within higher education, they are most likely to be hired in faculty positions as extension specialists, teachers, and research scientists. Among others, K-State animal sciences graduates are employed by artificial insemination and embryo transfer services companies, feed companies, cooperatives, breed associations, meat packers, food processors, dairy plants. Placement records have been maintained for all PhD students since December graduation, 2003. Through May graduation, 2005, all 8 PhD graduates were placed in either academia or industry, and an average salary of \$75,000.

5. Service Provided to the Discipline, the University and Beyond

The department of ASI offers B.S., M.S., and Ph.D. degrees in both Animal Science and Food Science. The M.S. degree is offered in six discipline groups (physiology, ruminant nutrition, non-ruminant nutrition, meat science, food science, and breeding and genetics). The department has conferred 10, 4, 7, 6, and 5 doctorate degrees in Animal Science and Industry in years 2001-2005, respectively. ASI provides 32 distance learning courses and teaches two general education courses. Instructional service is used by all departments in the College of Agriculture and students in other colleges that have specific animal related interests. The department is critical to the fulfilling the University priority to be an international leader in the field of food safety and security. Faculty also serve the animal and food science industries through the conduct of basic and applied research, extension education programs, and numerous service roles and activities. ASI faculty serve the University through faculty governance and a wide array of service functions

6. Cost Effectiveness

The ASI department generated 2.0% of K-State's undergraduate credit hours and 1.5% of the graduate credit hours with 2.2% of K-State's General Use Expenditures. Given the high percentage of classes that have laboratories, the high costs of maintaining teaching farms, and that over 95% of the student credit hours are generated in courses taught by tenure-track faculty, the ASI program is best described as highly cost effective. The recent CSREES Review recommendations indicated the department needs to conduct a thorough review of course offerings in order to create more time for research activities. The review team recommended consolidation of sections, eliminating some courses and reducing the frequency of offerings. While these processes would further enhance the efficiency of the department, care must be taken that larger sections and less frequent course offerings to do not negatively impact the quality of the educational experience for the students. Additional instructional FTE are warranted if the department is to continue to expand its curriculum, increase student numbers and student credit hours generated, and enhance its scholarly activities and research productivity. The PhD program easily exceeds the BOR standards for numbers of majors, degrees conferred and faculty with terminal degrees.

7. Hours Required for Degree Completion = 90

