

Proposal
School of Animal Sciences
College of Agriculture and Life Sciences
Spring 2021

1. **Proposed name:** School of Animal Sciences (SAS)
 2. **Proposed School:** Composed of the people and programs of the departments of: 1) Dairy Science and 2) Animal and Poultry Sciences.
 3. **Proposed effective date of the organizational change:** July 1, 2021.
 4. **Proposed mission:** The School of Animal Sciences will be a national and international leader in the animal sciences. With its many disciplines and the study of many biological systems, the School will focus on educating students, discovery and translational research, dissemination of knowledge, and applications of technology in the animal industry. The goals and objectives of the School of Animal Sciences are to:
 - a. Create a community of excellence for faculty members interested in discovery of new knowledge about animals and their contribution to the human condition.
 - b. Establish a unit of excellence where students and other stakeholders from across the globe go to receive the latest information on the ability of animals to sustain, enhance and contribute to human well-being, sustainability and security.
- **Benefits sought by creating the new organizational structure:**
 - Innovative academic programs tailored for preparing students for diverse, rewarding and challenging careers in the animal sciences.
 - More opportunities for interdisciplinary collaboration between faculty that will enhance research, teaching, Extension, and outreach.
 - Enhanced coordination of Extension programming of two departments and Agricultural Research and Extension Centers.
 - A framework to promote innovation and coordinate strategic decision-making for hiring and resource allocation within the college and among the animal science disciplines.
 - Business operations that focus use of resources and minimize administrative burden on faculty members.
 - Research and teaching programs that justify the continued investment in construction and renovation of animal facilities, laboratories, and classrooms.
 - Increased investment from public and private sources for the animal sciences.

5. **Proposed organizational structure:**

The proposed School will be an administrative and academic unit of the College of Agriculture and Life Sciences, and the School Director will report to the Dean of CALS.

○ **Internal Organization of the School:**

- Administrative leadership will include a Director. An Executive Committee will serve as advisory to the Director, and will be comprised of the Director (Executive Committee chair), three Program Directors for undergraduate education, research and graduate education, and extension and outreach, respectively; and a representative from the Agricultural Research and Extension Centers.
- The School will replace the administrative structures and academic units of the two current Departments.
- Current Department structures will be replaced with scientific and/or communities of interest. Upon establishment of the School, the Director, Executive Committee, and faculty will develop a collaborative process that provides faculty with incentives, resources, and opportunities to move freely across communities and/or aggregate into new communities as opportunities and critical mass allows. We anticipate that communities will change with time in response to new initiatives, societal and stakeholder needs, and national/global emerging opportunities.
- All physical, financial, and personnel resources of the two departments will be combined to support School operations. These resources will be under the oversight of the School Director.

○ **Promotion and Tenure/Annual Evaluation:**

- The Promotion and Tenure process and annual evaluations will be organized at the school level under guidance of the School Director. Initially, sub-committees corresponding to merging departments will be established to ensure that candidates for promotion and tenure are evaluated in accordance with University policies and procedures.
- New procedures will be developed to guide the intra-School process for promotion and tenure. The process will consider the breadth of disciplines, number of faculty members, and support needed for successful transition of current tenure-track assistant professors to the new tenure home.
- Formation of the School will not reduce representation of faculty in the School of Animal Sciences within the college unit. CALS Governance and Promotion and Tenure will retain two representatives from the School faculty to ensure adequate faculty input in academic, research and Extension missions of the college
- Procedures for annual faculty evaluations are currently under development.

- **Identify any additional resources needed to create the administrative organization of the proposed school and provide a justification for these resources.**
- **Will the school require an additional financial/budget officer?**
 - ✓ No additional resources are anticipated; resources of the current departments will be reallocated.
- **Will the school require a development officer?**
 - ✓ No
- **Will the school require an information officer?**
 - ✓ The School will outline a formal plan with CALS IT to migrate to a model of IT support that includes necessary resources.
- **Will the school require associate or assistant directors?**
 - ✓ Yes. Administrative leadership of the School will include a Director and three Program Directors for undergraduate education, research and graduate education, and extension and outreach, respectively.
- **What additional staff resources and operating budgets will be required to support any new positions?**
 - We believe that, except for the positions noted above, current administrative staff resources will be adequate for administrative needs, although retraining of administrative personnel is likely to be needed.
 - Operating budget needs are not known at this time.
- **Develop a proposed operating budget for the school that reflects both current operations and any new financial resources required to create the school.**
 - Operating budget from the two founding departments will be merged into a collective School operating budget to be strategically managed by the School's administrative leadership.
 - All existing commitments made by departments will be honored and accounted for during the initial transition period into the School structure.
 - As the School prepares to launch in July 2021, the Agency 208 budget will be developed using the Incentive Based Budget model so that School administration can plan over multiple years.
 - Organization codes will be modified that represents the School and the new structure. Funds from all sources (state salary and operating, overhead, various, VTF, IDDL, etc.) within Dairy Science and Animal and Poultry Sciences will be moved under this new organization code structure.

- VTF funds will transition under the new organization, but School leadership will work with CALS Advancement to ensure that all donor wishes are being adhered to given the purpose of the funds.
- School leadership, with input from faculty, will establish clear guidelines on how these resources are managed and distributed within the School.
- The College of Agriculture and Life Sciences will utilize the School’s proposed hiring plans to consider strategic faculty positions to enhance the collaborations within the School and with external partners of the school.

6. Describe the academic programs (including instruction, research, and outreach) that would be offered or conducted by the proposed school. If recent academic program review documents are available, they may be submitted to respond to the relevant questions below.

- **Describe the program priorities for the school in terms of its instruction, research, and outreach missions.**
 - The two departments share many collaborative teams, and are already working across departmental lines to consider curricula revisions at both undergraduate and graduate levels to reflect the increasingly integrative approaches of our disciplines. The current degree offerings within the school will remain intact, and likely increase in diversity. This new initiative will also 1) create greater opportunity for coordinating multi-disciplinary interactions across teaching, research, and extension in the animal sciences; 2) expand and diversify undergraduate curricula integrating and leveraging the expertise of faculty, 3) capitalize on and extend expertise in contemporary research themes, and 4) lead to the on-going renovation and construction of facilities to accommodate growth and to replace inadequate space. This vision includes an emphasis on engaging in cross-cutting initiatives (including Destination Areas) with other units at Virginia Tech and beyond.
- **Using historical enrollment data and enrollment projections, describe the past and projected enrollments in the departments that will be part of the proposed school. Relate these data to overall University trends.**

Table 1. Undergraduate student enrollment (Fall semesters 2012 to 2016) and degrees awarded (AY2011-12 to AY2015-16) in APSC and DASC

	B.S.				
	2017	2018	2019	2020	2021
APSC enrolled	641	671	686	706	683
APSC awarded	103	124	135	166	NA
DS enrolled	76	81	72	83	75
DS awarded	16	20	19	24	NA

- From Fall 2017 to Fall 2020, university undergraduate enrollment increased by almost 7.5%. During this time period, APSC undergraduate enrollment has increased ~10%, whereas DASC undergraduate enrollment has decreased and remained static (Table 1). Degrees awarded have followed similar trends during this time period.
- We predict undergraduate student enrollment in the new School will increase by 20% with increased recruitment efforts and curricular flexibility.

Table 2. Graduate student enrollment (Fall semesters 2012 to 2016) and degrees awarded (AY2011-12 to AY 2015-16) in APSC and DASC

	M.S.					Ph.D.				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
APSC enrolled	30	24	19	26	20	30	35	41	44	37
APSC awarded	13	14	8	13	N/A	4	9	7	6	N/A
DS enrolled	5	2	3	1	2	14	12	10	11	9
DS awarded	4	4	1	2	N/A	3	4	5	1	N/A

- From Fall 2017 to Fall 2020, university graduate enrollment increased by 2%. During this time period, APSC graduate enrollment has increased from 60 to 66 graduate students, whereas DASC graduate enrollment decreased from 19 to 12 graduate students (Table 2).
 - We project an increase of 15% in graduate enrollment over the next five years.
- **Describe how the creation of the school will affect faculty workload and productivity in the component departments.**
 - We anticipate that the creation of the School will enable faculty to spend more time on learning, discovery, and engagement activities, thus increasing productivity. The duplication in administrative staff when the School forms provides an opportunity to reassign staff to new roles and responsibilities, which will shift some administrative duties currently carried out by faculty to support staff. These changes have already been accomplished.
 - **Describe the programs offered and trends in degrees awarded for these programs.**

- See above for a description of the undergraduate and graduate programs and trends in degrees awarded.
- **List and describe any anticipated major changes to the academic programs - such as new degree programs, options or concentrations to be proposed; merger of programs/degrees; or discontinuance of degrees/programs. (Proposed changes to academic programs would need to be reviewed separately through usual governance procedures.) Estimate the effects on enrollment and resources if such changes were implemented.**
 - Currently, DASC offers a BS degree and their MS program is a component of the Master of Life Science degree. APSC also has a BS and MS degree and collectively, both departments share a PhD degree program. Within the undergraduate curricula of each department, three options are offered. Curricula within APSC is currently being modified to enhanced the flexibility of course offerings from which students may choose. In addition to providing students greater input into designing their degree to fit their career aspirations, it has given us the opportunity to offer a greater breadth of courses. A school created from the current departments of Dairy Science and Animal and Poultry Science will be structured around BS degree programs. BS degrees may have options and minors. The BS in Dairy Science will remain intact, unchanged. This is critical to Virginia Tech's national reputation as a center of excellence in undergraduate education in Dairy Science and is important for recruitment and placement efforts. The BS degree in Animal and Poultry Sciences will also remain intact; however, there will be an opportunity for the faculty to consider new degree options for animal-centric undergraduates. Expansion of degree options include, but not restricted to a BS degree in Equine Science, Companion Animal Science, all wildly popular among college-bound students, as well as appreciated by stakeholders across the commonwealth and beyond. Revisions will be evaluated and explored over time by the faculty and based on needs and resource availability. Other items to be considered once the School is formed include curriculum coordination (courses that should be merged, eliminated, created), degree programs and majors within the curriculum, administrative structure of the undergraduate program within the school, graduate teaching assistant and resource support for common courses, undergraduate advising structure, and instructor availability/teaching load. The formation of the School will provide opportunities for increasing enrollment and student quality through improved recruiting efforts, improving exposure and recognition within STEM fields, increasing undergraduate student diversity, and increasing student placement post-graduation (career advancement/professional development).
 - Creation of a school will have little impact on the structure of the combined

graduate program. The school will still offer the current MS in APSC, MS in Life Sciences and the PhD program. This structure will likely evolve with time and significant discussions in and across the school. Growth in both departments graduate programs has increased 20% over the past 5-years (Table 2) and growth is expected to continue at that pace due to the addition of new faculty. With the increased competition for entry into vet school, we predict the demand for the non-thesis option in the APSC MS degree to increase which will lead to increased enrollment. The primary objective of the School will be the education and training of outstanding scientists, increased PhD enrollment and degrees awarded, and increase graduate student quality through improved recruiting efforts, improved exposure and recognition within STEM fields, increased graduate student diversity. We expect GTA numbers to increase to meet the demand of increased student numbers in the UG curriculum, and anticipate restructuring the curriculum to best meet the needs of diverse grad student fields of study.

- The USDA predicts employment opportunities in food, agriculture, renewable natural resources and the environment to remain strong through 2025. The US Bureau of Labor Statistics forecasts a 5.2% increase in the US labor force between 2018 and 2028, based on retirements and job growth. This translates into 2.6% increase in those involved in agriculture.
 - Market demand for scientists and related professionals is projected to have sustained 15% growth beyond 2020 (U.S. Department of Labor). The STEM Food and Ag Council (2015) indicates that such a steady need for industry professionals is outpacing the supply of trained graduates.
 - Between 2020 and 2025, the number of college graduates seeking careers in food, agriculture, renewable natural resources and the environment will be approximately 59,400. Of this total, only 61% or 36,100 of these positions are filled by existing programs at land grant institutions. Therefore, there is a shortage of graduates to fill the needs of the industry.
- **Describe changes in the nature, quantity, or interdisciplinarity of the research, scholarship, creative expression or artistic performances of faculty in the component departments which might be anticipated by establishment of the school.**
- By capitalizing on the strengths of the current Departments of Dairy Science and Animal and Poultry Sciences, the university, college and school will make new investments to increase our capacity to tackle the many current and emerging challenges in agriculture and food security, and the environment. Unifying our disciplines within one academic unit will 1) promote increased interdisciplinarity, 2) provide the impetus for increasing our already considerable collaborations, and 3) greatly facilitate the revision of the curricula.

- Two Agricultural Research and Extension Centers (ARECs) are affiliated with the current departments, and will be affiliated with the School. We will prioritize meaningful integration of these faculty colleagues into the life of the School. Ways to do this may include but are not limited to 1) educating on-campus faculty about their colleagues and discovery and engagement occurring at ARECs, 2) increased on-line course offerings for the benefit of graduate students at ARECs, 3) creating incentives for involving AREC faculty in on-campus activities and vice-versa; and 4) improvement of AREC facilities.
- **Describe changes in the nature, quantity, or interdisciplinarity of the outreach and continuing education of faculty in the component departments which might be anticipated by establishment of the school.**
 - Priority will be given to promising interdisciplinary initiatives. Such initiatives include revised curriculum, unified oversight and management of graduate programs, and a seed grant program to promote development of interdisciplinary outreach and discovery. Joining our departments together will create new possibilities for interdisciplinary outreach through our Extension programs, and by increasing involvement of faculty located at ARECs.

7. Proposed Evaluation Criteria

- **Using the general guidelines provided in the policy document, state the evaluation criteria that will be used to assess the effectiveness of the new school in achieving the benefits that are sought by its creation.**
 - Policy 6150 states that “Reviews will be guided by the school's objectives and implementation plan, as well as by the relationship of the school's goals to the University Plan. Demonstrable evidence of accomplishments must be included in both the internal and external reviews. The evaluation will emphasize the degree to which the school has met the criteria and benefited the institution, with evidence such as active involvement of a critical mass of interdisciplinary faculty and students; contributions to enriching the education of students; effective interdepartmental collaboration with respect to teaching, research, and public service activities; and increased access to external resources. In addition, the review will address issues of administrative effectiveness and efficiency and fiscal management.”



VirginiaTech

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March 12, 2021

To whom it may concern:

Our vision is to create a School of Animal Sciences within the College of Agriculture and Life Sciences that will increase the visibility, opportunities, and impact of our learning, discovery, and engagement programs. This new School is an exciting opportunity for our college to build upon the unique strengths of our programs and to create an interdisciplinary approach to solve some of our planet's biggest challenges. By bringing together the programs and people of the Departments of Dairy Science and Animal and Poultry Sciences, the College and School will make investments to increase our capacity and tackle the many challenges in agriculture and food security, and the environment.

The new School will create opportunities to revise our academic programs to prepare our students for rewarding and challenging careers in the animal sciences; will foster multi-disciplinary collaboration between faculty that will allow for synergies across teaching, research, and extension and outreach; will allow strategic decision-making about hiring and resource allocation across the related disciplines; will consolidate operations for more efficient use of resources to reduce administrative burdens on faculty allowing them to focus on scholarly activities while still retaining current staffing level; will serve as a tenure home for faculty members in the two departments involved; and will align and empower our faculty and staff, so we can help solve some of the grand challenges of the future.

The two participating departments have been working together since the summer of 2019 on planning for the new School. Working groups have been formed to assist in the planning and input was sought from faculty and staff members and others to develop recommendations for transitioning programs and operations to a new School.

We enthusiastically support the establishment of the School of Animal Sciences.

Sincerely,

Alan L. Grant
Dean

Ed Jones
Associate Dean
Director of Virginia
Cooperative Extension

Susan Sumner
Associate Dean
Director of Academic
Programs

Tom Thompson
Associate Dean
Director of CALS Global

Saied Mostaghimi
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COLLEGE OF AGRICULTURE AND LIFE SCIENCES
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March 5, 2021

To the Review Committees:

I write to express my enthusiastic support for the proposed “School of Animal Sciences” that will, upon approval, be housed in the College of Agriculture and Life Sciences. The School will bring together the faculty, staff, and students, and their programs, from our two existing academic departments: Department of Dairy Science and Department of Animal and Poultry Sciences. I strongly believe that by partnering and bringing together our respective program strengths, the School will increase the interdisciplinarity and impact of teaching, research, and extension programs in the animal sciences.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. E. Gerrard'.

David E. Gerrard, Ph.D.
Head, Animal and Poultry Sciences
Interim Head, Department of Dairy Science



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March 12, 2021

Dr. Alan Grant, Dean
College of Agriculture and Life Sciences
104 Hutcheson Hall
Blacksburg, VA 24061

Dear Dean Grant:

The CALS Curriculum Committee met earlier today to review the School of Animal Sciences Proposal. The committee unanimously approved the document with a few minor changes. I have attached the edited document. Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink that reads 'David R. Winston'.

David R. Winston
Chair, CALS Curriculum Committee

c: Dr. David Gerrard
Dr. Susan Sumner
Anna Taylor