



University Council

January 13, 2023

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Dear Colleagues:

The attached proposal from the College of Agricultural and Environmental Sciences to offer a new major in Animal Biosciences (B.S.A.) will be an agenda item for the January 20, 2023, Full University Curriculum Committee meeting.

Sincerely,

Susan Sanchez, Chair

University Curriculum Committee

cc: Provost S. Jack Hu  
Dr. Marisa Pagnattaro



**UNIVERSITY SYSTEM OF GEORGIA**

# USG Academic Degree Program Application

Released  
December 21, 2020

**Version Control**

<i>Date</i>	<i>Changes</i>	<i>USG Approved date</i>	<i>Website update date</i>
<i>12-18-2020</i>	<i>Revised question 34 and 61 for clarity; Revised question 47 to include part b with the tuition comparison table for peer or competitive programs; reworded question 49 to include costs and benefits per fee; Revised question 50 related to additional costs to students; Revised question 51 to clarify the question related to indirect costs.</i>		

**NOTE:**

*Italicization* indicates a question or field on the in-take form

^= indicates accreditation related content

**USG Routing**

- Program was part of the Annual Academic Forecast*
- This proposal can be expedited (Nexus, established concentration with strong enrollment)*
- This proposal requires USG integrated review*

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## **USG ACADEMIC PROGRAM APPLICATION**

### **A. OVERVIEW**

*To be completed as part of SharePoint Submission*

1. *Request ID: (SharePoint Generated unique ID)*
2. *Institution Name: University of Georgia*
3. *USG Sector: Research*
4. *School/Division/College: College of Agricultural and Environmental Sciences*
5. *Academic Department: Animal and Dairy Science*
6. *Proposed Program Name: Bachelor of Science in Agriculture with a major in Animal Biosciences*
7. *Major: Animal Biosciences*
8. *CIP Code (6 digit): 26.0701 (26070100)*
9. *Degree Level: Bachelor of Science in Agriculture (B.S.A.)*
10. *Anticipated Implementation Semester and Year^: Fall 2023*

11. *Was this program listed in the most recent Academic Forecast?*

Yes

No (If no, explain why below)

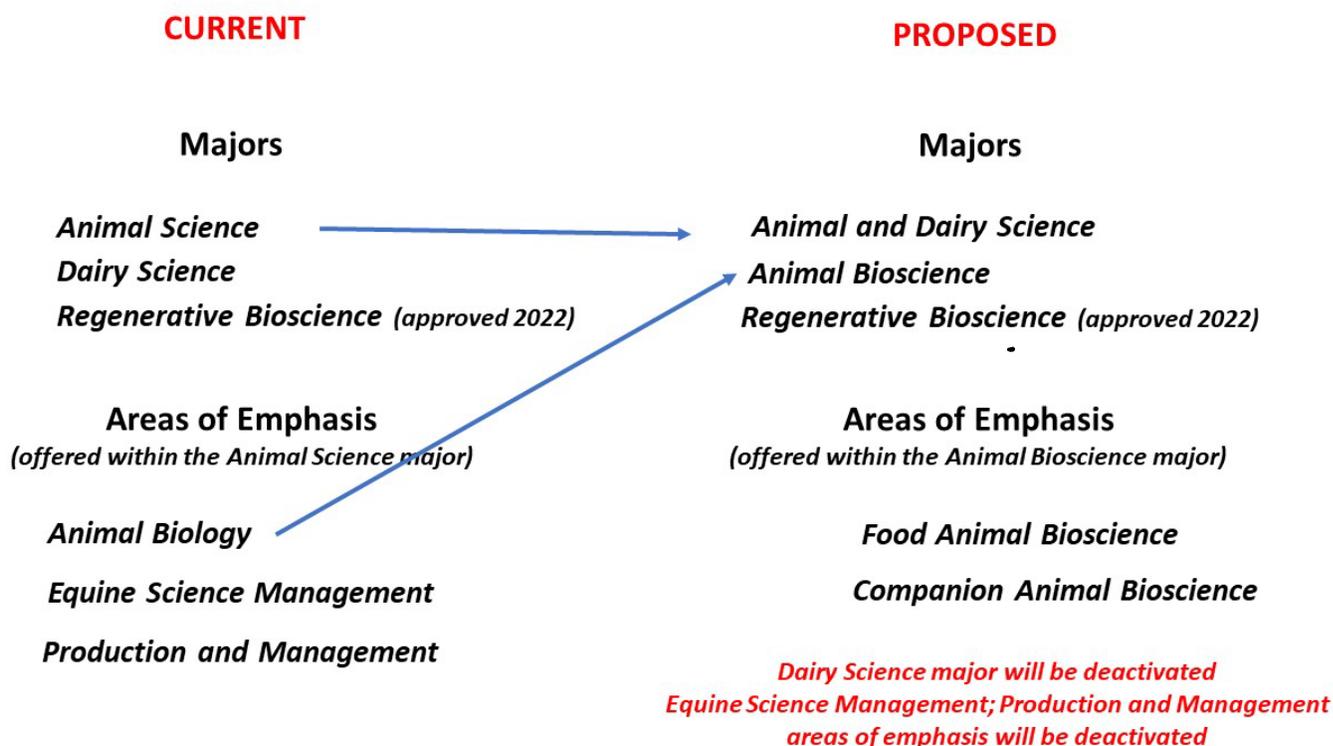
This proposal was not included in the University of Georgia's Academic Forecast because it had not been submitted through the faculty governance process.

12. *Program Description (Provide a description of the program to be used in the Board of Regents meeting packet):*

The Animal and Dairy Science (ADS) department served, as of fall semester 2020, 231 students interested in careers involving animals. A majority of students come in with the intention of becoming a veterinarian. There are many other career options available within animal industries, including nutritional and pharmaceutical representatives, animal farm and breeding managers, service animal careers, animal laboratory technicians, agriculture educators, and many others. The department proposes to create the Animal Biosciences major in order to provide education to students that more closely feeds into their

projected career paths, as well as increase visibility of careers in the animal industries other than veterinary medicine. Animal Biology is currently an area of emphasis under the major in Animal Science (B.S.A.), and the content is now being elevated to an independent major, which will be renamed Animal Biosciences to avoid potential confusion with programs that may be traditionally housed in ecology, zoology, or biology departments. This will allow the ADS department to cover more topics involving animal physiology and health for students desiring to pursue a career in the veterinary or animal health industries, while giving those students who desire to work in a more business-related aspect of animal science the ability to take courses more specific to their career goals.

**Figure 1: Proposed changes to Animal and Dairy Science majors**



By promoting the content currently offered under the Area of Emphasis in Animal Biology to a major in Animal Biosciences, the ADS department can offer specialized areas of emphasis. The department plans to create two areas of emphasis: Food Animal Biosciences and Companion Animal Biosciences. Students will also have the option to complete the major without selecting an area of emphasis, should they desire a more comprehensive animal biosciences background. These new areas of emphasis will better meet the career goals of incoming students as well as align with national trends in the discipline of animal science. As fewer students come to UGA from farming backgrounds, the interest level and comfort level with large animal production is decreasing. Many students who want to pursue a veterinary degree want to work specifically with small animals. Currently, UGA has no animal science or physiology degree that addresses companion animal health. Additionally, students may be interested in pursuing health-related careers involving companion animals which are not directly related to the field of veterinary medicine. There has been increased interest in, and visibility of, animal-assisted therapy careers such as guide dogs, service animals, hippotherapy, and animal-assisted psychotherapy or speech therapy. Some graduates have already pursued career opportunities in these fields. Many of these jobs overlap in the areas of human and animal health, and the Animal Biosciences major has been carefully mapped out to allow students who may be interested in these career paths to take the necessary prerequisites to enter health-related programs such as physical therapy, occupational therapy, or other medical related programs while still gaining a solid education in animal health, management, and production.

It is also important to recognize that the department has a responsibility for serving the livestock industry and contributing to the education and training of students interested in food animal production. Along these lines,

the faculty feel that it is extremely important to have an area of emphasis for students interested in food animal veterinary medicine. This is an initiative from the state and the university, with ADS students frequently being accepted into the Food Animal Veterinary Incentive Program (FAVIP) and attending vet school to practice food animal medicine. By promoting Animal Biology to a major status rather than area of emphasis status, it will be possible to offer a Food Animal Biosciences track in this major to train students in more depth in the areas of food animal health and production.

Finally, students can decide to not pursue either area of emphasis and instead gain experience with multiple species of animals.

13. Accreditation<sup>^</sup>: Describe disciplinary accreditation requirements associated with the program (if applicable, otherwise indicate not applicable).

Not applicable

14. Specify **SACSCOC** or other accreditation organization requirements<sup>^</sup>.

Mark all that apply.

- Substantive change requiring notification only <sup>1</sup>
- Substantive change requiring approval prior to implementation <sup>2</sup>
- Level Change <sup>3</sup>
- None

## **B. STRATEGIC PLAN**

15. How does the program align with your institutional mission and function<sup>^</sup>?  
If the program does not align, provide a compelling rationale for the institution to offer the program.

### Mission of the College of Agricultural and Environmental Sciences (CAES) and Department of Animal and Dairy Science (ADS):

The mission of CAES is to “seek, verify, and apply knowledge related to agriculture and the environment, and to disseminate this knowledge through student education and outreach programs.” Additionally, CAES is “dedicated to discovering, teaching, and delivering the science required for healthy living to flourish in Georgia.”

The mission for the department states, “Animal and Dairy Science is a multidisciplinary and diverse department that provides instructional, research, and extension programming in the areas of food animal production, equine/companion animal management, and animal and medicinal biotechnology that addresses critical issues, such as cost of production, profitability, human and animal health, environmental stewardship, bioethics, and animal well-being.”

Promoting this program to become a new major rather than an area of emphasis allows the ADS department to expand its teaching in the areas of animal physiology and health, and their interrelationship with human health, food animal production, and equine/companion animal management, all of which are missions of this department. Developing a teaching program with more depth and breadth in the areas of animal physiology and health will allow the ADS department to even better serve the mission of CAES and teach the “science required for healthy living to flourish.”

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<sup>1</sup> See page 22 (Requiring Notification Only) of [SACSCOC Substantive Change Policy and Procedures document](#).

<sup>2</sup> See page 17 (Requiring Approval Prior to Implementation) of [SACSCOC Substantive Change Policy and Procedures document](#).

<sup>3</sup> See page 3 (Level Change Application) of [SACSCOC Seeking Accreditation at a Higher or Lower Degree Level document](#) for level change requirements.

### National disciplinary trends:

While animal science programs have historically focused on livestock, over the past few decades there has been increased incorporation of companion animal classes and majors adopted by universities across the nation. The national governing body for animal science (American Society of Animal Science, ASAS) has a mission statement as follows: “The American Society of Animal Science fosters the discovery, sharing, and application of scientific knowledge concerning the care and responsible use of animals to enhance animal and human health and well-being.” This governing body now recognizes companion animals as a subset of an animal science program. They offer “Companion Animal” as a section at national meetings and have a national steering/planning committee specific to companion animals. Further, many of UGA’s peer and aspirational universities across the nation (including UC Davis, Cal Poly, Iowa State University, University of Nebraska-Lincoln, University of Illinois, Michigan State University, Rutgers University, and University of Minnesota) offer companion animal programs as an area of emphasis or major, while several of these and others offer food/livestock animal areas of emphasis (including University of Florida, University of Illinois, Cal Poly, UC Davis, Rutgers University, Iowa State University, and University of Nebraska-Lincoln).

For these reasons, the faculty believe that having a major within the department where students can choose optional areas of emphasis in companion animal biosciences or food animal biosciences aligns well with trends across the nation and also fits the mission of the college and department, as well as adhering to the mission statement of the governing national organization (ASAS).

16. How does the program align with your institution’s strategic plan and academic program portfolio? Identify the number of existing and new courses to be included in the program.

The courses and majors offered through the Department of Animal and Dairy Science align with career placement data and employment demands, which meets several institutional strategic plans. In particular, this program is in alignment with UGA’s Strategic Plan, Goal 1.1, Expand Experiential Learning Opportunities for All Students. As part of this new major, requirements are added for all students to engage in meaningful experiential learning opportunities such as undergraduate research and internships. Additionally, the Animal and Dairy Science department offers many labs associated with lecture classes, and in creating this major, skill sets taught in each lab were carefully mapped out to develop a curriculum that builds upon itself to reinforce learning outcomes. A new class/lab was developed as part of this proposal that will teach students anatomy and physiology at a much deeper and experiential level by using a semester-long dissection lab. Additionally, this new major aligns well with several of the goals listed in Strategic Plan 3: Strengthening Partnerships with Communities Across Georgia and Around the World. The department has a balanced, three-pronged mission of teaching, extension, and research. By keeping the curriculum relevant to industry demands and career placement, this will allow for more student engagement in current research and extension programs (further aligning with Goal 1.1).

In developing this major, most of the courses in the program of study are already being taught, as the content is currently being offered as an area of emphasis. Proposed new courses are:

1. ADSC 2520, Animal Welfare (3 hours) - This is a new course that is in place and has been taught once as an elective. It will be a requirement in the new major.
2. ADSC 3410 and ADSC 3410L, Comparative Anatomy and Physiology of Domestic Animals (4 hours) - This new course is designed to give students experiential training in anatomy and physiology.
3. ADSC 3360, Microbiology and Immunology of Domestic Animals (3 hours) - This is also a new course that is in keeping with current trends in the discipline.
4. ADSC 2010L, Introduction to Animal Science Lab (1 hour) - This revised course is designed to give incoming students an opportunity for immediate experiential learning in the area of animal husbandry.

### **C. NEED**

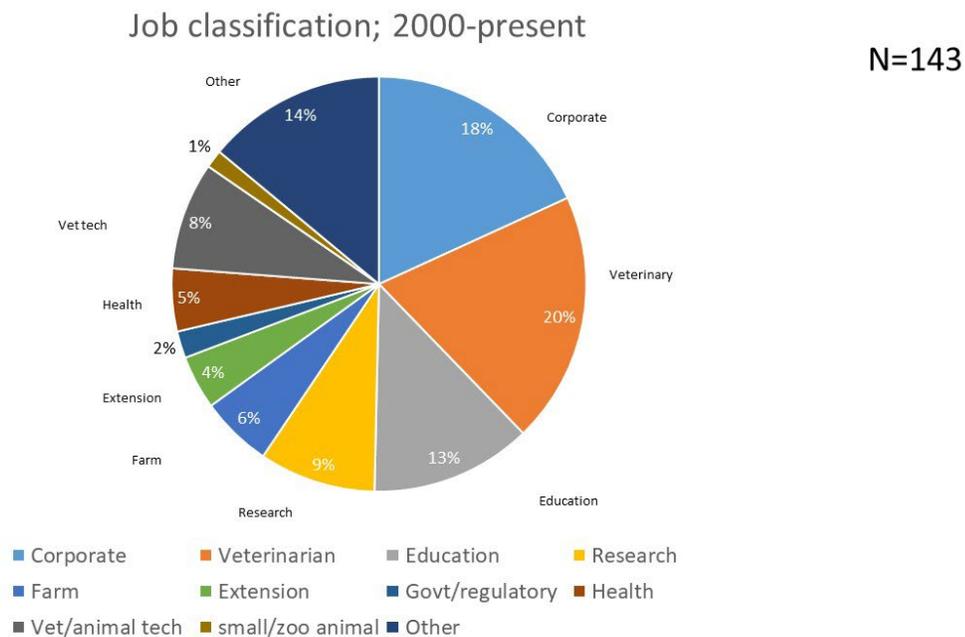
17. *Was this proposal and the design of the curriculum informed by talking with alumni, employers, and community representatives?*

No

Yes (If yes, use the space below to explain how their input informed this proposal)

The content of this major is currently being offered as an area of emphasis, so it is not a completely new program. The department feels that the demand for this area of emphasis is high enough to promote it to major status, which will allow better training for students who would like to pursue corporate positions or veterinary medicine rather than careers in the animal farming industry. As part of the curriculum review to develop this major, an alumni survey was conducted in 2019 with 273 total respondents. Only 7% of alumni who responded were employed in farm management jobs (only 6% when respondents were narrowed to those graduating post-1999), and of these, only 3 alumni (1% of total respondents) work directly in the equine industry as a manager or trainer. However, in post-1999 graduates (143 respondents), 18% of respondents have corporate jobs and 20% work as veterinarians.

**Figure 2: Data from ADS alumni survey conducted in 2019 showing current careers of respondents**



To work in corporate animal science industries, students need to be prepared to take jobs, at least initially, where they may not be able to choose the species of animal they are working with. However, when students apply to a veterinary program, they often times have a direction they want to specialize in, such as small animal, large animal, companion animal, or food animal. For these reasons, it is a logical decision for the department to promote the pre-veterinary path of Animal Biology from an area of emphasis to a major and allow specializations under that major for students to specialize in different classes of animals. The creation of companion animal and food animal areas of emphasis is new, but in line with national trends, as detailed above.

18. Does the program align with any local, regional, or state workforce strategies or plans?

No

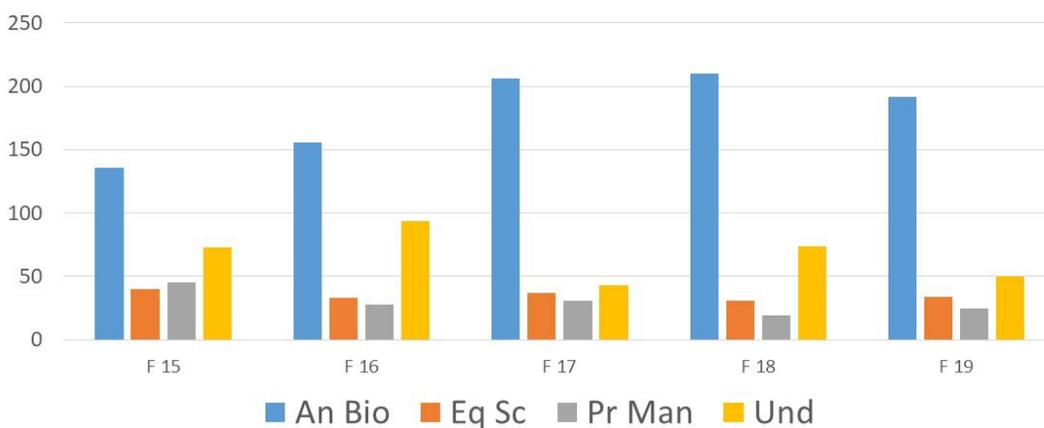
Yes (If yes, please explain below)

19. Provide any additional evidence of regional demand for the program^ (e.g. prospective student interest survey data, community needs, letters of support from employers)

Since 2015, there have been approximately 275-325 students enrolled in the Animal and Dairy Science department each year, with consistently over 50% of students enrolling in the Animal Biology Area of Emphasis. In recent years, this number has continued to increase, with 65-70% of ADS students declaring Animal Biology as their area of emphasis in the years of 2017-2019. Animal Biology is considered by most students to be a pre-veterinary track.

**Figure 3: Area of Emphasis enrollment trends over a 5-year period (Und = undeclared)**

## Area of Emphasis Enrollment



In a career study conducted in 2019, 20% of the alumni respondents (post-1999) were employed as veterinarians. This number shows an increasing trend of employment in this field over time. When alumni survey data included all years, 14% of alumni responded that they were employed as veterinarians, whereas when data was sorted to only include those who graduated from the years 2000-2019, 20% were employed as veterinarians. It is important to recognize that gaining acceptance into veterinary school is highly competitive, and a much higher percentage of incoming students will declare an interest in a veterinary career than those who will actually gain employment in this career. Students who do not gain acceptance to veterinary school will often pursue careers in other science-based fields such as animal research, pharmaceutical and nutrition careers, and human health-related fields, all of which require intensive training in physiology, health, and management.

The companion animal and food animal areas of emphasis are new components to this major. In surveys done within one required class, ADSC 3300, Animal Nutrition and Metabolism, in the spring of 2020, out of 102 students, there was the following breakdown of majors: 76% Animal Science, 3% Dairy Science, 11% Biological Science, 3% Avian Biology, and 7% other. Of these students, 63% reported their career goal to be veterinary medicine, 10% were interested in animal production, and 2-4% had career goals in other areas of the animal industry. This is consistent with previous years' data, with 63-67% of students over each of the past 5 years stating that veterinary medicine was their career goal. When asked which species of animal they were most interested in (for 2020 data), 47% stated companion or equine animals as their primary interest, and 35% were primarily interested in food animals (dairy, beef, swine). Other students were interested in either exotics (16%) or poultry (5%).

When students enter professional school for veterinary medicine, they will receive comprehensive training in all animal species. However, many will choose to practice medicine in either small animal, equine, or food

animal practices, and will tailor their veterinary degree to take electives in the field they are most interested in. Beginning when they are undergraduates, or even middle or high school students, they will start to build portfolios of experience in the area where they ultimately want to practice (e.g., small animal, equine, food animal). It has been encouraged by veterinary school admissions representatives that students gain well-rounded experience over multiple species but that they both discuss and demonstrate by experience hours what area of the veterinary field they are most interested in when completing their application for admission. Based on this, and supported by survey data mentioned above, the department believes that students planning to apply to veterinary medicine programs should gain a well-rounded education but be allowed to choose electives in the area/species that most interests them. The Animal Biosciences major will allow students to learn about a broad variety of animal species in required classes such as Introduction to Animal Science, Anatomy and Physiology of Domestic Animals, Animal Nutrition, Animal Reproduction, Growth and Development of Animals, and Microbiology and Immunology of Domestic Animals. However, it will also allow them to gain specialization in their species/area of interest by tailoring some of their required or major elective courses in either food animal or companion animal. This is consistent with the way undergraduate students have been trained to view veterinary medicine and the way they log their experience hours (in their species/field of interest) even before coming to UGA.

20. *Identify the partners you are working with to create a career pipeline with this program*<sup>4</sup>.<sup>^</sup>

*Mark all that apply*

- High School CTAE
- High School STEM
- Career academies
- TCSG programs
- Other USG institutions
- Other universities
- Employers
- Community partnerships
- Professional associations
- Other (specify below)

Click or tap here to enter text.

- None

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<sup>4</sup> Provide letters of support and explain the collaboration and how partners will share or contribute resources. (Consider internal pipeline programs – “off-ramp program” Nursing to integrated health or MOUs for pathways with other USG institutions (pipelines – keep them in state for grad school if we can)

21. Are there any competing programs at your own institution?

No

Yes (If yes, provide additional information about the competing program(s) below).

While there are other pre-veterinary paths available to students, this major is not a duplicate of any program offered. This program has been housed in the department for decades, and the Area of Emphasis in Animal Biology was created in 2005. This proposal is a promotion from area of emphasis to major. Other pre-veterinary programs in the college are housed in the Department of Poultry Science, such as the majors in Biological Sciences (B.S.A.) and Animal Health (B.S.A.). Animal Health is a major that can only be awarded after a student completes a year of veterinary school. The new Animal Biosciences major is unique in that it has historically been focused on livestock animals as opposed to poultry, which will continue to be offered in the Food Animal Biosciences Area of Emphasis. The creation of a companion animal program is new, and this program is not currently offered in any form at UGA or in the state of Georgia to the committee's knowledge, in spite of high interest from students in this major. The department already offers two classes with the name "Companion Animal" in the course title (Companion Animal Care, Companion Animal Biology and Management). Companion Animal Care routinely has more than 75 students enrolled, in spite of its status as an elective rather than a required class. Additionally, two new classes in the field of companion animals have been recently approved and taught: ADSC 2020, Animals in Society, and ADSC 4520, Animal Cognition and Behavior. With the modernization of society, equines are now regarded more and more frequently as companion animals as opposed to livestock. The ADS department is uniquely poised to create an area of emphasis in companion animals as there are currently five classes in equine science as well as four classes related to other companion animals. Additionally, the Area of Emphasis in Food Animal Biosciences is in line with what this department has historically offered, and currently offers 10 courses that will fill food animal elective requirements.

22. The program service area is used as the basis for labor market supply and demand analysis. What is the program's service area (local, regional, state, national)? If outside of the institution's traditional service area, provide a compelling rationale for the institution to offer the program. If the program's service area is a region within the state, include a map showing the counties in the defined region.

This program primarily has a state service area, though there may be some interest from students in neighboring states.

23. Do any other higher education institutions in close proximity offer a similar program?

No

Yes (If yes, provide a rationale for the institution to offer the program)

24. Based on the program's study area, what is the employment outlook for occupations related to the program, according to the CIP to SOC crosswalk in the Qlik [IPEDS Application](#)<sup>^</sup>. An Excel version of the CIP to SOC crosswalk is also available from [NCES](#). If data for the study area is not available, then use state- or national-level data.

- a. Click [here](#) for US and Georgia occupation projections
- b. Click [here](#) for 2026 Georgia Department of Labor data projections for the State or Georgia Workforce Board Regions in Qlik (link to GDOL Projections); data is also available through the [GDOL Labor Market Explore Website](#)
- c. For a custom Georgia geography – request a Jobs EQ report from [USG Academic Affairs office](#).

Related Occupation	SOC code	Current Employment [Enter Year]	Projected Employment [Enter Year]	# Change	% Change	Average Annual Openings
<b>Animal Scientist</b>	19-1001	50 (2018)	60 (2028)	10	+22%	10
<b>Veterinarian</b>	29-1131	2320 (2018)	3210 (2028)	890	+38.3%	190
<b>Biological Scientist</b>	19-1029	1070 (2018)	1170 (2028)	100	+9.5%	120
<b>Occupational Therapists</b>	29-1122	2940 (2018)	3880 (2028)	940	+31.9%	290
<b>Physical Therapist</b>	29-1123	5180 (2018)	7030 (2028)	1850	+35.6%	440
<b>Speech-Language Pathologist</b>	29-1127	3350 (2018)	4740 (2028)	1390	+41.7%	360

25. Using IPEDS data, list the supply of graduates in the program and related programs in the service area. ^

Similar or Related Programs	CIP Code	Supply <sup>1</sup>	Competitor Institutions <sup>2</sup>
Agriculture, Agriculture Operations, and Related Sciences	Multiple CIP codes	416	Abraham Baldwin Agricultural College
Biological and Biomedical Sciences	Multiple CIP codes	3,677	Most other 4-year colleges will offer a program in biology; none offer a program in animal biology
Health Professions and Related Programs	Multiple CIP codes	5569	Most other 4-year colleges will offer a program in biology; none offer a program in animal biology

<sup>1</sup> Supply = Number of program graduates last year within the study area

<sup>2</sup> Competitors = List other institutions that offer this program or a similar program in the area (see [Question 23](#))

26. Based on the data provided in questions [24](#) and [25](#), discuss how this program will help address a need or gap in the labor market? ^

The data displayed in the table in question 25 was pulled from the generic and overarching career groups in agriculture and biology. Based on these numbers, there is no gap in the labor market. However, it is important to note that this major proposal is not designed to fill a gap in the labor market for general career paths. It is being proposed to allow better training for students to pursue careers in animal health fields (e.g., veterinarians, veterinary pharmaceutical representatives) and in human health fields that involve the potential use of animals (e.g., hippotherapy and animal-assisted therapy programs). The program is not new, as it is currently taught as an area of emphasis, but by promoting it to “major” status, it will allow the department to go into more depth to better prepare students for desired career paths, and to meet an emerging demand for a trained workforce in brand new career paths in animal-assisted therapy. The labor market and job forecast for animal-assisted therapy careers are new and difficult to quantify at this point in time. For example, a “hippotherapist” is a physical therapist who utilizes horses in their therapy program; however, they would be classified in job searches simply as a “physical therapist.” This proposed Animal Biosciences major has been carefully mapped to provide a comprehensive education in animal science that will feed into both pre-veterinary and pre-health graduate education paths.

27. Using data from **O\*-Net**, identify the average salary for the related occupations identified in question 24. Then list at least three technical skills and three Knowledge, Skills and Abilities (KSAs) associated with the related occupations. This information can be found using at [onetonline.org](http://onetonline.org). (Standard Occupation Code = SOC)

SOC Code (6 digit)	Average Salary (O-Net data)	Occupation specific technology skills & KSAs
<b>Animal Scientist</b>	<b>\$57,570</b>	<b>Analytical or science software, presentation software, spreadsheet software Biology, critical thinking, written and oral comprehension</b>
<b>Veterinarian</b>	<b>\$91,790</b>	<b>Data base user interface, presentation software, spreadsheet software Biology, critical thinking, active learning</b>
<b>Biological Scientist</b>	<b>\$76,600</b>	<b>Analytical or science software, presentation software, spreadsheet software Biology, critical thinking, active learning</b>
<b>Occupational Therapists</b>	<b>\$89,290</b>	<b>Computer based training software, graphics or photoimaging software, word processing software Psychology, critical thinking, active listening</b>
<b>Physical Therapist</b>	<b>\$86,950</b>	<b>Medical software, spreadsheet software, word processing software Psychology, active listening, critical thinking</b>
<b>Speech-Language Pathologist</b>	<b>\$76,000</b>	<b>Analytical or scientific software, document management software, spreadsheet software Psychology, active listening, critical thinking</b>

Notes:

28. Using **GOSA Earning and Learnings data**, what is the typical salary range 5 years after graduation from the program?

#### **Agriculture/Animal/Plant/Veterinary Science**

Average Salary	75 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	25 <sup>th</sup> Percentile
1 year after graduation	\$47,038	\$35,764	\$25,617
5 years after graduation	\$66,643	\$49,214	\$35,831

Provide any additional comments, if needed:

This data was collected for a bachelor's degree in "Agriculture/Animal/Plant/Veterinary Science." However, it is assumed that many students in this major will pursue an advanced degree after graduating with their bachelor's and will therefore have higher salaries than those listed.

Additional career paths students would be qualified for include:

#### **Biological and Biomedical Sciences:**

Average Salary	75 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	25 <sup>th</sup> Percentile
1 year after graduation	\$35,633	\$25,639	\$16,744
5 years after graduation	\$65,012	\$46,180	\$31,765

### Health Professions and Related Programs:

Average Salary	75 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	25 <sup>th</sup> Percentile
1 year after graduation	\$66,092	\$57,090	\$44,303
5 years after graduation	\$77,982	\$62,364	\$45,381

29. Based on the data compiled and analyzed for this section (see Section C: Need), what is the job outlook for occupations filled by students with this degree?^

The department believes the job outlook for students graduating with an Animal Biosciences major to be high. Many careers that this major would feed into are growing and are listed as “Bright Outlook” careers. Additionally, salaries for careers in animal and human health are high.

### D. CURRICULUM

30. Enter the number of credit hours required to graduate^

**120**

31. Are you requesting a credit hour requirement waiver (either below or above traditional credit hour length requirements as prescribed by the University System of Georgia? See section 2.3.5 (Degree Requirements) of the USG Board of Regents Policy Manual [here](#) for more information).

No

Yes (If yes, explain the rationale for the request in the space below)

32. Related to SACSCOC accreditation, specify if the program format of the proposed program is a^:

Format (Check 1)	50% or more of the program is delivered online
<input type="checkbox"/> Combination of on-campus and online	<input type="checkbox"/> Yes
<input type="checkbox"/> Combination of off-campus and online	<input type="checkbox"/> Yes
<input type="checkbox"/> Hybrid, combination delivery	<input type="checkbox"/> Yes

33. Is the program synchronous or asynchronous?<sup>5</sup> Mark one of the options below.

Synchronous

The majority of courses are offered at scheduled, pre-determined times with students connecting to a virtual room or location and interacting with faculty and fellow students via web/video conferencing platform.

Asynchronous

<sup>5</sup> See SACSCOC Handbook for Institutions Seeking Initial Accreditation [here](#).

34. For associate's, Nexus, and bachelor's degree proposals, which **High Impact Practices**<sup>6</sup> (HIPs) will faculty embed into the program? Mark all that apply.

- First-Year Experiences
- Common Intellectual Experiences
- Learning Communities
- Writing-Intensive Courses
- Collaborative Assignments and Projects
- Undergraduate Research
- Diversity/Global Learning
- ePortfolios
- Service Learning, Community Based Learning
- Internships
- Capstone Courses and Projects

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<sup>6</sup> See Kuh (2008). High-Impact Practices: What They Are, Who Has Access to Them, and Why They Matter. *Association of American Colleges and Universities*, 14(3), 28-29).

35. Discuss how HIPs will be embedded into the program? Your discussion should provide specific examples and include whether the HIP is required or an optional component. It should also indicate at what point the experience is offered or required.

(i.e. “Students will be required to participate in an externship during their third year of enrollment, in order to develop skills in... etc.”).

All students participate in First Year Odyssey Seminars as per the UGA requirement. Internships and/or undergraduate research will be required of all students to fulfill the experiential learning requirement of the major. It is expected that students may take these undergraduate research or internship classes more than once. Additionally, all students will take a capstone class (ADSC 4820, Senior Seminar in Animal and Dairy Science) in their final year to aid in career building skills such as resume development and interview preparation. Many of the courses in this major require collaborative assignments and projects, with data from these projects currently being measured and used as an assessment of learning outcomes.

36. Does the program take advantage of any USG initiatives?

Mark all that apply, and provide a letter of support from applicable initiatives' leadership.

eCampus

Georgia Film Academy

FinTECH

Other: Specify Initiative Here

37. ^For associate's, Nexus, and bachelor's degree proposals, list the specific occupational technical skills, and KSAs identified in question 27 and show how they related to the program learning outcomes. Insert more rows as needed.

Complete this chart for the upper division or major curriculum only.

Alignment of Occupational KSAs 1	Student Learning Outcome (s)	Direct Measure (s)	Data Source
<b>Biology, psychology</b>	<b>Students will demonstrate a clear understanding of the principles of animal anatomy and physiology, including biochemical and molecular regulation of physiological processes.</b>	<b>Scores on comprehensive knowledge exam</b>	<b>Comprehensive exam given in Senior Seminar course</b>
<b>Critical thinking, active learning</b>	<b>Students will learn and apply animal handling and laboratory techniques relevant to animal health, management, and production.</b>	<b>Comprehensive exam scores on lab practicum, Oral and written presentations</b>	<b>Comprehensive lab final given in ADSC 2010L (Introduction to Animal Science Laboratory); Scores on oral and written presentations compiled from the following classes (at minimum, more may be added): ADSC 3300 (written), ADSC 3610 (oral and written), ADSC 3630 (written), ADSC 3650 (written), ADSC 4010 (oral and written), ADSC 4360 (written)</b>
<b>Analytical or science software, presentation software, spreadsheet software, critical thinking</b>	<b>Students will be able to read, utilize, and interpret scientific data.</b>	<b>Oral and written presentations</b>	<b>Scores on oral and written presentations compiled from the following classes (at minimum, more may be added): ADSC 3300 (written), ADSC 3610 (oral and written), ADSC 3630 (written), ADSC 3650 (written), ADSC 4010 (oral and written), ADSC 4360 (written)</b>
<b>Critical thinking, biology, psychology, active learning, active listening</b>	<b>Students will demonstrate an understanding of animal behavior and be able to apply this knowledge to animal health, well-being, and management.</b>	<b>Scores on comprehensive knowledge exam</b>	<b>Comprehensive exam given in Senior Seminar course</b>
<b>Critical thinking, active learning, active listening</b>	<b>Students will develop problem solving and communication skills that enable them to recognize the existence,</b>	<b>Oral and written presentation scores</b>	<b>Scores on oral and written presentations compiled from the following classes (at minimum, more may be added): ADSC 3300 (written), ADSC 3610 (oral and</b>

	<b>scale, and scope of problems encountered in animal health and apply scientific concepts and methods to solve problems.</b>		written), ADSC 3630 (written), ADSC 3650 (written), ADSC 4010 (oral and written), ADSC 4360 (written)
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<sup>1</sup> Direct measures may include assessments, HIPs, exams, etc.

38. For associate's, Nexus, and bachelor's degree proposals, fill in the table below to demonstrate the link between the **learning outcomes** and NACE **career ready competencies**. Insert more rows as needed.

<b>Career Ready Competencies (NACE)</b>	<b>Student Learning Outcomes</b>	<b>Direct Measure (s)<sup>1</sup></b>
Critical Thinking/Problem Solving	<p><b>1. Students will develop problem solving and communication skills that enable them to recognize the existence, scale, and scope of problems encountered in animal health and apply scientific concepts and methods to solve problems.</b></p> <p><b>2. Students will learn and apply animal handling and laboratory techniques relevant to animal health, management, and production.</b></p> <p><b>3. Students will demonstrate an understanding of animal behavior and be able to apply this knowledge to animal health, well-being, and management.</b></p> <p><b>4. Students will be able to read, utilize, and interpret scientific data.</b></p>	<b>Comprehensive exam scores on lab practicum, oral and written presentation scores</b>
Oral/Written Communications	<b>Students will develop problem solving and communication skills that enable them to recognize the existence, scale, and scope of problems encountered in animal health and</b>	<b>Oral and written presentation scores</b>

	<b>apply scientific concepts and methods to solve problems.</b>	
Team Work/ Collaboration	<b>Students will develop problem solving and communication skills that enable them to recognize the existence, scale, and scope of problems encountered in animal health and apply scientific concepts and methods to solve problems.</b>	<b>Oral and written presentation scores</b>
Digital Technology	<b>Students will be able to read, utilize, and interpret scientific data.</b>	<b>Oral and written presentation scores</b>
Leadership	<b>Students will demonstrate an understanding of animal behavior and be able to apply this knowledge to animal health, well-being, and management.</b>	<b>Scores on comprehensive knowledge exam</b>
Professionalism/ Work Ethic	<b>Students will learn and apply animal handling and laboratory techniques relevant to animal health, management, and production.</b>	<b>Comprehensive exam scores on lab practicum, oral and written presentation scores</b>
Career Management	<b>Students will develop problem solving and communication skills that enable them to recognize the existence, scale, and scope of problems encountered in animal health and apply scientific concepts and methods to solve problems.</b>	<b>Oral and written presentation skills</b>
Global/ Intercultural Fluency	<b>Students will develop problem solving and communication skills that enable them to recognize the existence, scale, and scope of problems encountered in animal health and apply scientific concepts and methods to solve problems.</b>	<b>Oral and written presentation scores</b>

<sup>1</sup> Direct measures may include assessments, HIPs, exams, etc.

39. How will learning outcomes for the program be assessed?^ Attach the curriculum map for the upper division or major curriculum.

Student learning outcomes:

1. Students will demonstrate a clear understanding of the principles of animal anatomy and physiology, including biochemical and molecular regulation of physiological processes.

2. Students will learn and apply animal handling and laboratory techniques relevant to animal health, management, and production.
3. Students will be able to read, utilize, and interpret scientific data.
4. Students will demonstrate an understanding of animal behavior and be able to apply this knowledge to animal health, well-being, and management.
5. Students will develop problem solving and communication skills that enable them to recognize the existence, scale, and scope of problems encountered in animal health and apply scientific concepts and methods to solve problems.

Student learning outcomes assessment:

**Comprehensive Exam Scores in Lab Practicum (ADSC 2010L).** All students majoring in Animal Biosciences are required to take Introductory Animal Science laboratory. This course provides “hands-on” learning opportunities in the techniques associated with proper animal handling. Within this course, students are required to complete a comprehensive final exam demonstrating their ability to perform the handling techniques taught in class. The expectation will be that 95% of the students score 75% or better on this final. If this goal is not met, the class will be reevaluated and changes made in the way the content is presented. This is a direct assessment of Outcome 2.

**Scores on Comprehensive Knowledge Exam.** All students majoring in Animal Biosciences are required to take at least one production class as late juniors or seniors. During the last day of class or the final exam period, a comprehensive knowledge exam will be given. The exam consists of 20 questions (5 each representing LOA 1-4) that were constructed by the ADS faculty to test the content-based knowledge of the students. The threshold expectation is that every student will score at least 60% on each section and will score 75% or better on the exam as a whole. Data from each LOA and for the exam as a whole will be tracked over time to identify trends and possible deficiencies in the curriculum. These exams will allow direct assessment of learning outcomes 1-4. A summary of the exam data will be reviewed each year by the Curriculum Committee.

**Oral and Written Presentations.** All students majoring in Animal Biosciences are required to take a production class and an advanced physiology class. In all of these courses, a graded oral and/or a written presentation is required of each student. For the purposes of the assessment, students will be evaluated in relation to their peers in the class as well as in relation to students in previous classes (see attached forms). Courses requiring oral and/or written presentations include ADSC 3300 (written), ADSC 3610 (oral and written), ADSC 3630 (written), ADSC 3650 (written), ADSC 4010 (oral and written), ADSC 4360 (written), ADSC 4370 (oral and written), and ADSC 4390 (oral and written). Over 95% of all students majoring in Animal Biosciences will take at least two of these classes and will be evaluated on their oral and written skills during their junior and/or senior year. Students will be scored on their presentations using a common, departmentally-supplied rubric (100 points, 25 each for organization, content, writing/speaking skills). The threshold expectation will be that at least 50% of the students in the department participate in an oral or written assignment each year and that 80% of the students participating score at least an 80% on the rubric. The scores from the various classes will be reported to and tabulated by the Undergraduate Coordinator. The Undergraduate Coordinator will make recommendations to the Department Head and report the data to the faculty at the annual faculty meeting. This is a direct assessment of Outcome 5.

**Alumni Survey.** Animal and Dairy Science alumni will be asked to complete a Zoomerang survey every 3 years which assesses if they entered a graduate program or a career, if their education is of value in their current position, and which specific areas in the animal/dairy science program they consider the most valuable and which should be improved or changed. The Department Head will tabulate the results and report them to the faculty at the annual faculty meeting. This is an indirect assessment of all outcomes.

**Senior Exit Survey.** Graduating seniors will be asked to complete a Zoomerang Survey to examine the quality of instruction and advising in the program, as well as to obtain information on early post-graduate career paths of students. The Department Head will tabulate this survey data and report it to the faculty at the annual faculty meetings. This is an indirect assessment of all outcomes.

**Curriculum map:**

--- Indicates where areas of emphasis could differ in requirements

Course #	Title	Hours
<b>Fall Year 1</b>		
MATH 1113	Precalculus	3
ENGL 1101	English Composition I	3
CHEM 1211, CHEM 1211L	General Chemistry I, General Chemistry Laboratory I	4
ADSC 2010	Introductory Animal and Dairy Science	3
ADSC 2010L	Introductory Animal and Dairy Science Laboratory	1
FYOS 1101	First Year Odyssey Seminar	1
<b>Total</b>		<b>15</b>
<b>Spring Year 1</b>		
ENGL 1102	English Composition II	3
CHEM 1212, CHEM 1212L	General Chemistry II, General Chemistry Laboratory II	4
BIOL 1107, BIOL 1107L	Principles of Biology I, Principles of Biology I Laboratory	4
ADSC 2520	Animal Welfare	3
Choice	Area IV Elective	3
<b>Total</b>		<b>17</b>
<b>Fall Year 2</b>		
BIOL 1108, BIOL 1108L	Principles of Biology II, Principles of Biology II Laboratory	4
ADSC 3410, ADSC 3410L (or other A&P course)	<b>NEW:</b> Comparative Anatomy and Physiology of Domestic Animals, Comparative Anatomy and Physiology of Domestic Animals Laboratory	4
CHEM 2211, CHEM 2211L	Modern Organic Chemistry I, Modern Organic Chemistry Laboratory I	4
Choice	Area IV Elective	3
<b>Total</b>		<b>15</b>
<b>Spring Year 2</b>		
CHEM 2212, CHEM 2212L or elective	Modern Organic Chemistry II, Modern Organic Chemistry Laboratory II or elective	4
A&P course	Choose one Anatomy and Physiology course	3/4
HIST 2211	American History to 1865 (Area V)	3
POLS	Government course (Area V)	3
PEDB 1XXX	PE elective	1
<b>Total</b>		<b>14-15</b>
<b>Fall Year 3</b>		
ADSC 3400	Physiology of Reproduction of Domestic Animals	3
BCMB 3100	Introductory Biochemistry and Molecular Biology	4
MIBO 3000-3000L or MIBO 3500E	Introductory Applied Microbiology or Introductory Microbiology	3/4

PHYS 1111-1111L or STAT 2000	Introductory Physics-Mechanics, Waves, Thermodynamics or Introductory Statistics (Area III)	4
<b>Total</b>		<b>14-15</b>
<b>Spring Year 3</b>		
ADSC 3300	Animal Nutrition and Metabolism	3
ADSC 3110 or GENE 3200-3200D	Introduction to Genetics of Livestock Improvement or Genetics	3/4
COMM 1110	Introduction to Public Speaking	3
Choice	PHYS 1112-1112L or Area V elective	3/4
Choice	Area IV elective	3
<b>Total</b>		<b>15-17</b>
<b>Fall Year 4</b>		
ADSC 4250/6250	<b>NEW:</b> Microbiology and Immunology in Domestic Animal Health	3
ADSC 3600, ADSC 3600L or other production course)	Beef Cattle Production and Management or other production course	3
Choice	Advanced Physiology (major requirement)	3
Choice	Experiential learning class	3
Choice	General elective or Area V elective	3
<b>Total</b>		<b>15</b>
<b>Spring Year 4</b>		
ADSC(POUL) 4380/6380	Food Animal Growth and Development	3
Choice	Advanced Physiology (Major requirement)	3
Choice	General elective	3-4
Choice	General elective	3-4
ADSC 4820	Senior Seminar in Animal and Dairy Sciences	1
<b>Total</b>		<b>13-15</b>
<b>Total Degree Hours</b>		<b>120</b>

40. How will outcomes for graduates of the program be assessed?

*(Outcomes may include employment and placement rates, student or employer surveys, or other assessments of graduate outcomes)*

**Alumni Survey.** Animal and Dairy Science alumni will be asked to complete a Zoomerang survey every 3 years which assesses if they entered a graduate program or a career, if their education is of value in their current position, and which specific areas in the animal/dairy science program they consider the most valuable and which should be improved or changed. The Department Head will tabulate the results and report them to the faculty at the annual faculty meeting. This is an indirect assessment of all outcomes.

41. List the entire course of study required to complete the academic program. ^

Include course: prefixes, numbers, titles, and credit hour requirements

Indicate the word “new” beside new courses

Include a program of study

## **I. Foundation Courses (9 hours)**

ENGL 1101 or ENGL 1101E or ENGL 1101S

ENGL 1102 or ENGL 1102E or ENGL 1102M or ENGL 1050H or ENGL 1060H

MATH 1113 or MATH 2200 or MATH 2250 or MATH 2300H or MATH 2400 or MATH 2400H or MATH 2410 or MATH 2410H or STAT 2000

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## **II. Sciences (7-8 hours)**

At least one of the physical science or life science courses must include a laboratory.

### **Physical Sciences (3-4 hours)**

**Preferred Course(s):** (CHEM 1211\* and CHEM 1211L\* ) or (CHEM 1311H\* and CHEM 1311L\*)

\*In addition to meeting upper-level course prerequisites, this course can be used to satisfy College of Agricultural and Environmental Sciences graduation requirements.

### **Life Sciences (3-4 hours)**

**Preferred Course(s):** (BIOL 1107, BIOL 1107L)\* or (BIOL 2107H, BIOL 2107L)\*

\*In addition to meeting upper-level course prerequisites, this course can be used to satisfy College of Agricultural and Environmental Sciences graduation requirements.

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## **III. Quantitative Reasoning (3-4 hours)**

Preferred Courses:

(PHYS 1111, PHYS 1111L) or STAT 2000 or BIOS 2010

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## **IV. World Languages and Culture, Humanities and the Arts (12 hours)**

World Languages and Culture (9 hours)

No preferred courses for this area. See Core Curriculum view.

Humanities and the Arts (3 hours)

**Preferred Course(s):** \*COMM 1110 or \*COMM 2150H

\*In addition to meeting upper-level course prerequisites, this course can be used to satisfy College of Agricultural and Environmental Sciences graduation requirements.

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## **V. Social Sciences (9 hours)**

- Students who have not met the Georgia and U.S. Constitution requirement by examination should enroll in POLS 1101 or POLS 1101E or POLS 1105H.
- A passing grade on an examination on the history of the United States and Georgia is required to satisfy the United States and Georgia History Requirement for all persons receiving a baccalaureate degree from the University, unless exempted by one of the following courses: HIST 2111, HIST 2111E, HIST 2111H, HIST 2112, HIST 2112E, HIST 2112H, HIST 3080H. Examinations are given at University Testing Services. Reexamination is permitted. Contact University Testing Services at (706) 542-3183 for information.

No preferred courses for this area. See Core Curriculum view.

#### **Area VI (18 hours)**

**ADSC 2010:** Introductory Animal Science (3 hr)

**ADSC 2010L:** Introductory Animal Science Lab (1 hr)

**ADSC 2520:** Animal Welfare (3 hr)

**(BIOL 1108, BIOL 1108L) or (BIOL 2108H, BIOL 2108L):** Principles of Biology II (4 hr)

**(CHEM 1212, CHEM 1212L) or (CHEM 1312H, CHEM 1312L):** General Chemistry II (4 hr)

**(CHEM 2211, CHEM 2211L) or (CHEM 2311H, CHEM 2311L):** Modern Organic Chemistry I (4 hr)

If any of the courses in Area VI have been used to satisfy Areas II-V of the Core Curriculum, General Electives may be taken here. (Refer to College-wide requirements when selecting General Electives)

#### **Major Requirements**

A baccalaureate degree program must require at least 21 semester hours of upper division courses in the major field and at least 39 semester hours of upper division work overall.

#### **Required Courses (42-45 hours):**

**Complete the General Animal Biosciences track OR the Area of Emphasis in Companion Animal Biosciences OR the Area of Emphasis in Food Animal Biosciences**

#### **Biochemistry (4hr)**

**BCMB 3100 or BCMB 3100 or BCMB 3100H:** Introductory Biochemistry and Molecular Biology (4hr)

#### **Microbiology (3-4hr)**

*Select 1 of the following:*

**MIBO 3000-3000L:** Introductory Applied Microbiology (4hr)

**MIBO 3500E:** Introductory Microbiology (3hr)

#### **Genetics (3-4hr)**

Select 1 of the following:

**GENE 3200** or **GENE 3200H**: Genetics (4hr)

**ADSC 3110**: Introduction to Genetics of Livestock Improvement (3hr)

**Nutrition (3hr)**

**ADSC 3300**: Animal Nutrition and Metabolism (3hr)

**Reproduction (3hr)**

**ADSC 3400**: Physiology of Reproduction in Domestic Animals (3hr)

**Immunology (3hr)**

**(NEW) ADSC 4360**: Microbiology and Immunology in Domestic Animals (3hr)

**Developmental Biology (3 hr)**

**ADSC 4380/6380**: Animal Growth and Development (3hr)

**Experiential Learning (3 hrs)**

**ADSC 3910**, Internship in ADS I (3 hr), or **ADSC 4960**, Undergraduate Research in Animal and Dairy Science I (3 hr), or another Experiential Learning class that is approved by ADS advisor

**Senior Seminar (1 hr):**

**ADSC 4820**: Senior Seminar in Animal and Dairy Sciences (1hr)

**University Required classes:**

PEDB 1XXX (1hr)

FYOS 1001 (1hr)

**General Animal Biosciences track (no area of emphasis selected):**

**Anatomy and Physiology (7-8 hr)**

Select 1 of the following:

**(NEW) ADSC 3410**: Comparative Anatomy and Physiology of Domestic Animals (3hr) and **ADSC 3410L**: Comparative Anatomy and Physiology of Domestic Animals Laboratory (1 hr)

**CBIO 2200-2200L**: Anatomy and Physiology I (4hr)

**CBIO 3010-3010L**: Functional Human Anatomy (4hr)

Select 1 of the following:

**CBIO 2210-2210L:** Anatomy and Physiology II (4hr)

**VPHY 3100:** Elements of Physiology (3hr)

**ADSC 4230/6230-4230L/6230L:** Anatomy and Biomechanics of the Horse (3hr)

**ADSC 4430/6430-4430L/6430L:** Equine Exercise Physiology (3hr)

**ADSC(FDST) 3650-3650L:** Introductory Meat Science (3hr)

**ADSC 3420:** Physiology of Lactation in Farm Animals (3hr)

### **Animal Techniques (3hr)**

Select 1 of the following:

**ADSC 3630-3630L:** Horse Production and Management (3hr)

**ADSC 3670:** Companion Animal Biology and Management (3hr)

**ADSC 3600-3600L:** Beef Cattle Production and Management (3hr)

**ADSC 3610-3610L:** Pork Production and Management (3hr)

**ADSC 3620-3620L:** Dairy Cattle Production and Management (3hr)

### **Advanced Physiology (6 hr)**

Select 2 of the following:

**FDST(ADSC) 4140/6140-4140L/6140L:** Advanced Meat Science (3hr)

**ADSC 4230/6230-4230L/6230L:** Anatomy and Biomechanics of the Horse (3hr) (course cannot be used to fill more than one degree requirement)

**ADSC 4350/6350:** Grazing Animal Production and Management (3hr)

**ANNU(ADSC) 4360-6360:** Ruminant Nutrition (3hr)

**ANNU(ADSC)(POUL) 4370/6370:** Monogastric Nutrition (3hr)

**ADSC 4390 /6390-4390L/6390L:** Equine Nutrition (3hr)

**ADSC 4410/6410-4410L/6410L:** Applied Reproductive Management in Cattle or Swine (3hr)

**ADSC 4430/6430-4430L/6430L:** Equine Exercise Physiology (3hr) (course cannot be used to fill more than one degree requirement)

**ADSC 4520/6520:** Animal Cognition and Behavior (3hr)

**ADSC 3130:** Animal Biotechnology (3hr)

## **Companion Animal Biosciences Area of Emphasis:**

### **Anatomy and Physiology (7-8 hr)**

Select 1 of the following:

**(NEW) ADSC 3410:** Comparative Anatomy and Physiology of Domestic Animals (3hr) and **ADSC 3410L,** Comparative Anatomy and Physiology of Domestic Animals Laboratory (1 hr)

**CBIO 2200-2200L:** Anatomy and Physiology I (4hr)

**CBIO 3010-3010L:** Functional Human Anatomy (4hr)

*Select 1 of the following:*

**CBIO 2210-2210L:** Anatomy and Physiology II (4hr)

**VPHY 3100:** Elements of Physiology (3hr)

**ADSC 4230/6230-4230L/6230L:** Anatomy and Biomechanics of the Horse (3hr)

**ADSC 4430/6430-4430L/6430L:** Equine Exercise Physiology (3hr)

### **Animal Techniques (3hr)**

*Select 1 of the following:*

**ADSC 3630-3630L:** Horse Production and Management (3hr)

**ADSC 3670:** Companion Animal Biology and Management (3hr)

### **Advanced Physiology (6 hr)**

*Select 2 of the following:*

**ADSC 4230/6230-4230L/6230L:** Anatomy and Biomechanics of the Horse (3hr) (course cannot be used to fill more than one degree requirement)

**ANNU(ADSC)(POUL) 4370/6370:** Monogastric Nutrition (3hr)

**ADSC 4390 /6390-4390L/6390L:** Equine Nutrition (3hr)

**ADSC 4410/6410-4410L/6410L:** Applied Reproductive Management in Cattle or Swine (3hr)

**ADSC 4430/6430-4430L/6430L:** Equine Exercise Physiology (3hr) (course cannot be used to fill more than one degree requirement)

**ADSC 4520/6520:** Animal Cognition and Behavior (3hr)

**ADSC 3130:** Animal Biotechnology (3hr)

## **Food Animal Biosciences Area of Emphasis:**

### **Anatomy and Physiology (7-8 hr)**

*Select 1 of the following:*

**(NEW) ADSC 3410:** Comparative Anatomy and Physiology of Domestic Animals (3hr) and **ADSC 3410L,** Comparative Anatomy and Physiology of Domestic Animals Laboratory (1 hr)

**CBIO 2200-2200L:** Anatomy and Physiology I (4hr)

**CBIO 3010-3010L:** Functional Human Anatomy (4hr)

*Select 1 of the following:*

**CBIO 2210-2210L:** Anatomy and Physiology II (4hr)

**VPHY 3100:** Elements of Physiology (3hr)

**ADSC(FDST) 3650-3650L:** Introductory Meat Science (3hr)

**ADSC 3420:** Physiology of Lactation in Farm Animals (3hr)

**Animal Techniques (3hr)**

*Select 1 of the following:*

**ADSC 36003600L:** Beef Cattle Production and Management (3hr)

**ADSC 3610-3610L:** Pork Production and Management (3hr)

**ADSC 3620-3620L:** Dairy Cattle Production and Management (3hr)

**Advanced Physiology (6 hr)**

*Select 2 of the following:*

**FDST(ADSC) 4140/6140-4140L/6140L:** Advanced Meat Science (3hr)

**ADSC 4350/6350:** Grazing Animal Production and Management (3hr)

**ANNU(ADSC) 4360-6360:** Ruminant Nutrition (3hr)

**ANNU(ADSC)(POUL) 4370/6370:** Monogastric Nutrition (3hr)

**ADSC 4410/6410-4410L/6410L:** Applied Reproductive Management in Cattle or Swine (3hr)

**ADSC 3130:** Animal Biotechnology (3hr)

**General Electives (15-18 hours)**

## Program of Study – Animal Biosciences

Courses <i>(list acronym, number, and title)</i>	Hours
<b>Area A 1: Communication Skills</b> <i>(indicate the semester hour range)</i> ENGL 1101: English Composition I ENGL 1102: English Composition II	3 3
<b>Area A 2: Quantitative Skills</b> <i>(indicate the semester hour range)</i> Given the mathematics pathways that are available to students, what specific mathematics course is recommended of those listed below MATH 1001 – Quantitative Reasoning or MATH 1101 – Mathematical Modeling MATH 1111 – College Algebra (for non-STEM degrees) MATH 1113 – Pre-Calculus (for STEM degrees)  Please note the Mathematics recommendations for programs of study in terms of USG math pathways at the following url: ( <a href="http://www.completegeorgia.org/math-recommendations">http://www.completegeorgia.org/math-recommendations</a> ).  Indicate the institutional mathematics requirement in this space:  MATH 1113: Precalculus	3
<b>Area B: Institutional Options</b> <i>(indicate the semester hour range)</i>  CHEM 1211, CHEM 1211L: Freshman Chemistry I BIOL 1107, BIOL 1107L: Principles of Biology I	4 4
<b>Area C: Humanities, Fine Arts, and Ethics</b> <i>(indicate the semester hour range)</i>  COMM 1100: Introduction to Public Speaking Choice: Area IV World Languages and Global Culture	3 9
<b>Area D: Natural Sciences, Mathematics, and Technology</b> <i>(indicate the semester hour range)</i>  PHYS 1111-1111L: Introductory Physics-Mechanics, Waves, Thermodynamics	4
<b>Area E: Social Sciences</b> <i>(indicate the semester hour range)</i>  POLS 1101: American Government HIST 2111: American History to 1865 Choice: Social Sciences	3 3 3
<b>Area F:</b> <i>(indicate the semester hour range)</i>  ADSC 2010: Introduction to Animal Science ADSC 2010L: Introduction to Animal Science Lab ADSC 2520: Animal Welfare (BIOL 1108, BIOL 1108L) or (BIOL 2108H, BIOL 2108L): Principles of Biology II (CHEM 1212, CHEM 1212L) or (CHEM 1312H, CHEM 1312L): General Chemistry II or Advanced General Chemistry II (Honors)	3 1 3 4 4

(CHEM 2211, CHEM 2211L) or (CHEM 2311H, CHEM 2311L): Modern Organic Chemistry I	4
<p><b>Major Area Courses – Common Curriculum</b> (<i>indicate the semester hour range and annotate whether courses involve an internship or field experience</i>)</p> <p><b>(BCMB 3100, BCMB 3100E, BCMB 3100H):</b> Introductory Biochemistry and Molecular Biology 4</p> <p><b>ADSC 3300:</b> Animal Nutrition and Metabolism 3</p> <p><b>ADSC 3400:</b> Physiology of Reproduction in Domestic Animals 3</p> <p><b>(NEW) ADSC 4250:</b> Microbiology and Immunology in Domestic Animals 3</p> <p><b>ADSC 4380:</b> Animal Growth and Development 3</p> <p><i>Select 1 of the following:</i></p> <p><b>MIBO 3000-3000L:</b> Introductory Applied Microbiology 3-4</p> <p><b>MIBO 3500E:</b> Introductory Microbiology</p> <p><i>Select 1 of the following:</i></p> <p><b>GENE 3200, GENE 3200H:</b> Genetics 3-4</p> <p><b>ADSC 3110:</b> Introduction to Genetics of Livestock Improvement</p> <p><b>ADSC 3910 (Internship) OR ADSC 4960 (Undergraduate Research in ADS) OR another Experiential Learning class that is approved by ADS advisor</b> 3</p> <p><b>ADSC 4820:</b> Senior Seminar in ADS 1</p> <p><b><u>No Area of Emphasis Chosen:</u></b></p> <p><b><u>Anatomy and Physiology (7-8 hr)</u></b></p> <p><i>Select 1 of the following:</i></p> <p><b>(NEW) ADSC 3410:</b> Comparative Anatomy and Physiology of Domestic Animals 4</p> <p><b>CBIO 2200-2200L:</b> Anatomy and Physiology I</p> <p><b>CBIO 3010-3010L:</b> Functional Human Anatomy</p> <p><i>Select 1 of the following:</i></p> <p><b>CBIO 2210-2210L:</b> Anatomy and Physiology II 3-4</p> <p><b>VPHY 3100:</b> Vet Physiology</p> <p><b>ADSC 4230/6230-4230L/6230L:</b> Anatomy and Biomechanics of the Horse</p> <p><b>ADSC 4430/6430-4430L/6430L:</b> Equine Exercise Physiology</p> <p><b>ADSC(FDST) 3650-3650L:</b> Introductory Meat Science</p> <p><b>ADSC 3420:</b> Physiology of Lactation in Farm Animals</p> <p><b><u>Animal Techniques and Management (3 hr)</u></b> 3</p> <p><i>Select 1 of the following:</i></p> <p><b>ADSC 3600-3600L:</b> Beef Production and Management</p>	

<p>ADSC 3610-3610L: Pork Production and Management  ADSC 3620-3620L: Dairy Production and Management  ADSC 3630-3630L: Horse Production and Management  ADSC 3670: Companion Animal Biology and Management</p> <p><b><u>Advanced Physiology (6 hr)</u></b>  Select 2 of the following:</p> <p>FDST(ADSC) 4140/6140-4140L/6140L: Advanced Meat Science  ADSC 4230/6230-4230L/6230L: Anatomy and Biomechanics of the Horse (course cannot be used to fill more than one degree requirement)  ADSC 4360: Ruminant Nutrition  ADSC 4370: Monogastric Nutrition  ADSC 4390: Equine Nutrition  ADSC 4350: Grazing Animal Production and Management  ADSC 4410/6410-410L/6410L: Applied Reproductive Management in Cattle and Swine  ADSC 4430/6430-4430L/6430L: Equine Exercise Physiology (course cannot be used to fill more than one degree requirement)  ADSC 4520/6520: Animal Cognition and Behavior  ADSC 3130: Animal Biotechnology</p>	6
<p><b>Concentration</b> (indicate the semester hour range)</p> <p><b>Companion Animal Biosciences Area of Emphasis:</b></p> <p><b><u>Anatomy and Physiology (7-8 hr)</u></b></p> <p>Select 1 of the following:</p> <p>(NEW) ADSC 3410: Comparative Anatomy and Physiology of Domestic Animals  CBIO 2200-2200L: Anatomy and Physiology I  CBIO 3010-3010L: Functional Human Anatomy</p> <p>Select 1 of the following:</p> <p>CBIO 2210-2210L: Anatomy and Physiology II  VPHY 3100: Vet Physiology  ADSC 4230/6230-4230L/6230L: Anatomy and Biomechanics of the Horse  ADSC 4430/6430-4430L/6430L: Equine Exercise Physiology</p> <p><b><u>Animal Techniques and Management (3 hr)</u></b></p> <p>Select 1 of the following:</p> <p>ADSC 3630-3630L: Horse Production and Management  ADSC 3670: Companion Animal Biology and Management</p> <p><b><u>Advanced Physiology (6 hr)</u></b></p> <p>Select 2 of the following:</p> <p>ADSC 4230/6230-4230L/6230L: Anatomy and Biomechanics of the Horse (course cannot be used to fill more than one degree requirement)  ADSC 4370: Monogastric Nutrition  ADSC 4390: Equine Nutrition</p>	4  3-4  3  6

<p><b>ADSC 4410/6410-410L/6410L:</b> Applied Reproductive Management in Cattle and Swine</p> <p><b>ADSC 4430/6430-4430L/6430L:</b> Equine Exercise Physiology (course cannot be used to fill more than one degree requirement)</p> <p><b>ADSC 4520/6520:</b> Animal Cognition and Behavior</p> <p><b>ADSC 3130:</b> Animal Biotechnology</p> <p><b>Food Animal Biosciences Area of Emphasis</b></p> <p><b><u>Anatomy and Physiology (7-8 hr)</u></b></p> <p><i>Select 1 of the following:</i></p> <p><b>(NEW) ADSC 3410:</b> Comparative Anatomy and Physiology of Domestic Animals</p> <p><b>CBIO 2200-2200L:</b> Anatomy and Physiology I</p> <p><b>CBIO 3010-3010L:</b> Functional Human Anatomy</p> <p><i>Select 1 of the following:</i></p> <p><b>VPHY 3100:</b> Vet Physiology</p> <p><b>ADSC(FDST) 3650-3650L:</b> Introductory Meat Science</p> <p><b>ADSC 3420:</b> Physiology of Lactation in Farm Animals</p> <p><b><u>Animal Techniques and Management (3 hr)</u></b></p> <p><i>Select 1 of the following: (emphasis areas listed next to classes)</i></p> <p><b>ADSC 3600-3600L:</b> Beef Production and Management</p> <p><b>ADSC 3610-3610L:</b> Pork Production and Management</p> <p><b>ADSC 3620-3620L:</b> Dairy Production and Management</p> <p><b><u>Advanced Physiology (6 hr)</u></b></p> <p><i>Select 2 of the following:</i></p> <p><b>FDST(ADSC) 4140/6140-4140L/6140L:</b> Advanced Meat Science</p> <p><b>ADSC 4360:</b> Ruminant Nutrition</p> <p><b>ADSC 4370:</b> Monogastric Nutrition</p> <p><b>ADSC 4350:</b> Grazing Animal Production and Management</p> <p><b>ADSC 4410/6410-410L/6410L:</b> Applied Reproductive Management in Cattle and Swine</p> <p><b>ADSC 3130:</b> Animal Biotechnology</p>	<p>4</p> <p>3-4</p> <p>3</p> <p>6</p>
<p><b>Electives</b> (<i>indicate the semester hour range</i>)</p> <p>General electives</p> <p>PEDB 1XXX</p> <p>FYOS 1001</p>	<p>12-17</p> <p>1</p> <p>1</p>
<p><b>Total Semester Credit Hours</b></p>	<p>120</p>

## E. IMPLEMENTATION

42. Provide an enrollment projection for the next four academic years<sup>^</sup>

	Year 1	Year 2	Year 3	Year 4
Fiscal Year (Fall to Summer)	2023-24	2024-25	2025-26	2026-27
Base enrollment <sup>1</sup>		130	140	135
Lost to Attrition (should be negative)		-10	-10	-5
New to the institution	10	30	50	50
Shifted from Other programs within your institution	150 (from Animal Biology area of emphasis)	25	0	0
<b>Total Enrollment</b>	160	175	180	180
Graduates	30	35	45	45
Carry forward base enrollment for next year	130	140	135	135

<sup>1</sup>Total enrollment for year 1 becomes the base enrollment for year 2

- a. Discuss the assumptions informing your enrollment estimates (i.e. for example, you may highlight anticipated recruiting targets and markets, if and how program implementation will shift enrollment from other programs at the institution, etc.)

The promotion of this program from an area of emphasis in Animal Biology to a major in Animal Biosciences is mainly to address needs of students already enrolled in this program as an area of emphasis (approximately 150-200 total students). The department expects some shifting of students from other majors. Based on a survey sent out to students who were enrolled in ADSC 2300, Companion Animal Care, over the past 7 years, approximately 16 of the 174 respondents who were enrolled in other majors said they would change majors if companion animal was offered as either a major or area of emphasis. When this data is scaled to the number of students who take this course per year, about 10 new students per year changing from other majors within the college into this major is expected. This may grow as students from outside majors become more aware of this program. However, many of students who are interested in companion animals come from within the department, from those already enrolled in the Animal Biology Area of Emphasis. Of the 174 respondents surveyed from previous years' companion animal class, 47 of the 174 total respondents were already Animal Science students who said they would choose companion animal if it were offered as a major or area of emphasis. However, peer institutions have seen significant increases in student numbers when companion animal programs were added. For example, the University of Illinois (UI) has an undergraduate student body comparable in size to that of UGA (approximately 34,000 undergraduates at UI as opposed to 30,000 at UGA). They have anecdotally seen increases in student numbers after adding a companion animal program to their department over a decade ago. Current student enrollment numbers for their degree programs is approximately 550 students in fall of 2020 as compared to 230 students enrolled in an ADS major at UGA, or over twice the number of students; however, they do not have a separate Poultry Science department like UGA does. The companion animal courses at UI routinely have well over 100 students, with some general elective companion animal courses having 600 and even 900 students enrolled each semester. While UGA expects a more modest growth rate, this does highlight the nationwide interest from students in the field of companion animal care. Additionally, as there are currently no companion animal programs at other neighboring land-grant universities in the southeast, it is expected that this program may draw some students from out of state. UI has approximately 25% out of state students, with many of them stating that their reason for coming is the companion animal program.

The department has fewer survey results for those interested in a food animal biosciences area of emphasis because this is already being incorporated into the curriculum and therefore is not a new component but rather a renaming/formalization of the program that most students already expect. Each year there are Animal Science students who apply for the Food Animal Veterinary Incentive program, a program created to incentivize students to enter food animal medicine. Therefore, the creation of the Food Animal Biosciences Area of Emphasis is on track with state needs and priorities.

b. *If projections are significantly different than enrollment growth for the institution overall, please explain.*

N/A

43. If projected program enrollment is not realized in year two, what actions are you prepared to take?

If current enrollment projections are not met, efforts will be made by the newly formed ADS recruitment committee to provide recruiting materials, including information on career opportunities, to secondary education state institutions. As the enrollment in the Animal Biology Area of Emphasis has held very steady for the past decade, faculty do not anticipate low enrollment being a concern.

44. Discuss the marketing and recruitment plan for the program. Include how the program will be marketed to adult learners and underrepresented and special populations of students. What resources have been budgeted for marketing the new program?

A newly formed recruitment committee has been appointed by the ADS department chair to develop materials for recruitment as well as to assess and engage in targeted recruitment events, both at UGA hosted events as well as other youth events such as 4-H and FFA.

45. Provide a brief marketing description for the program that can be used on the Georgia [OnMyLine website](#).

Animal Biosciences is the study of animal anatomy, physiology, behavior, and management. It involves learning the molecular and biochemical regulation and processes of different physiological systems, as well as factors that affect genetics, nutrition, reproduction, and immunology. It also involves understanding growth and development patterns of animals as well as behavior and welfare and how these affect management and health decisions.

Professionals in animal biosciences have animal handling, laboratory, and technical skills that allow them to pursue careers in the fields of animal and human health. Career paths include veterinarians, veterinary pharmaceutical representatives, animal nutritionists, and human health careers that involve animal-assisted therapies such as physical therapists, speech pathologists, and occupational therapists.

UGA students can earn a Bachelor's of Science in Agriculture (BSA) with a major in Animal Biosciences. Students can choose an area of emphasis in either Companion Animal Biosciences or Food Animal Biosciences, or they may choose to pursue a general track to gain a broader knowledge base of multiple farm and companion animal species.

Animal Biosciences (BSA) is administered through the Animal and Dairy Science department at the University of Georgia.

46. If this proposal is for a Doctorate program, provide information below for at least three external and one  
USG reviewer of aspirational or comparative peer programs

*Note: External reviewers must hold the rank of associate professor or higher in addition to other  
administrative titles.*

**Reviewer 1 Name**

Reviewer 1 Title

Reviewer 1 Institution

Reviewer 1 Email Address

Reviewer 1 Phone Number

**Reviewer 2 Name**

Reviewer 2 Title

Reviewer 2 Institution

Reviewer 2 Email Address

Reviewer 2 Phone Number

**Reviewer 3 Name**

Reviewer 3 Title

Reviewer 3 Institution

Reviewer 3 Email Address

Reviewer 3 Phone Number

**USG Reviewer Name**

USG Reviewer Title

USG Reviewer Institution

USG Reviewer Email Address

USG Reviewer Phone Number

**F. RESOURCES**

**F1. Finance^: Complete and submit the Excel budget forms and the questions below** (Do not cut and paste in the excel budget template into this document, submit the Excel budget templates separately.)

47. Are you requesting a differential tuition rate for this program? (masters, doctoral, and professional programs only)

- No (Move to answer question 48)
- Yes (If yes, answer questions 47a & 47b)

a. What is the differential rate being requested? The rate below should reflect the core tuition plus the differential, i.e. the tuition rate being advertised to the student.

In-State per Semester: \$Enter Amount

Out-of-State per Semester: \$Enter Amount

b. Provide tuition and mandatory fee rates assessed by competitive/peer programs per full-time student per semester. Please complete the table below:

Institution name	Link to institution's tuition & fee website	In-state tuition	Out-of-state tuition	In-state fees	Out-of-state fees

48. If existing funds are being reallocated, describe the impact on existing programs and the plan to mitigate these impacts.

Because this is not an entirely new academic program (it is currently being taught as an area of emphasis), no new funds are needed. Most classes are already being taught. New classes that are part of this proposed major will be taught by faculty lines that are freed up by termination of classes that are under-enrolled or redundant.

49. If student fees are being charged (excluding mandatory fees), explain the cost and benefit to students, per fee.

N/A

50. Are there any additional financial costs that students will have to take on as part of this program, but not assessed directly by the institution? (e.g. software licenses, equipment, travel, etc.) If so, please describe these costs and what strategies you have considered to decrease the student’s financial burden?

N/A

51. How does the institution plan for and fund increased indirect costs associated with the growth in students anticipated in the proposed program? Consider costs such as student advisement, student support services, tutoring, career services, additional library materials, technology, or other infrastructure.

No additional funds are needed since this program is currently already offered as an area of emphasis.

**F2. Faculty**<sup>^</sup> – Explain your faculty and staff plan for the program

52. Discuss how existing courses may be incorporated into this new program:

a. Course Development

# of total courses in the curriculum: **42**

# of existing courses to be part of the new program **38**

Net number of new courses to be developed 4

42 courses includes classes that are “major related” (e.g., Area VI and higher, not part of Core Curriculum)

c. Comment on the costs and workload related to the new course development.

New courses are either already through the development stage (e.g., being taught for the first time in academic year 2020-2021 or 2021-2022) or are being developed by faculty with classes that will be terminated by this curriculum change.

53. Explain how **current faculty and staff** will contribute to the program.<sup>^</sup>

a. *How many faculty will be re-directed to this program from existing programs?*

**15**

b. If this program is approved, what will be the new teaching load and distribution of time for the current faculty members? How will existing staff be impacted?

Teaching EFTs will not be changed. Faculty will not be asked to teach more classes than they currently teach. Most of the classes in the major are currently be taught already. There are four new courses in this proposal, as listed below:

1. ADSC 2010L, Introduction to Animal Science Lab (1 hour): Instructors already are in place to teach the associated lecture class (ADSC 2010) and will coordinate a team-taught 1 credit lab.
2. ADSC 2520, Animal Welfare (3 hours): This class was taught as an elective for the first time in fall 2020 by a new faculty hire. This class will become a requirement, and the faculty member is in place to teach this course.
3. ADSC 3410 and ADSC 3410L, Comparative Anatomy and Physiology of Domestic Animals (4 hours): This will be a team-taught class with a course coordinator. EFT to teach this course will be freed up by the removal of courses that have previously been low enrollment or duplicative courses.
4. ADSC 3360, Microbiology and Immunology of Domestic Animals (3 hours): There are two faculty members in the department with this area of expertise. One of the faculty is currently teaching ADSC 2000-2000L, which will be terminated as part of a curriculum review. The other faculty is currently teaching ADSC 4150, which is being terminated as part of a curriculum review due to duplicity. This will free up EFT of these faculty members to teach this required course.

Other courses for this major are currently being taught. Many are electives or major requirement choice options that will now become requirements for this degree.

- c. List the faculty that will be redirected from their current teaching load assignments to support this new program

Francis Fluharty, Jillian Bohlen, Todd Callaway, Dylan Davis, Robert Dove, Kylee Duberstein, Pedro Fontes, Holly Kinder, Daniela Lourenco, Hongxiang Lui, Dean Pringle, Valerie Ryman, Alexander Stelzleni, Kari Turner, Franklin West

- d. Explain who will be teaching the existing courses that are being released so faculty can teach a new program course. Additionally, please discuss the fiscal implications associated with course releases and redirections of faculty.

No course releases are needed. Only four new courses are created as part of this proposal, and faculty are in place to teach these (see section b of this question).

- e. What costs are included in your budget for course development? (Consider professional development, course development time buy out, overload pay, and re-training)

No associated costs with course development

- f. Attach your SACSCOC roster for the proposed program. Include in parentheses the individual with administrative responsibility for the program and whether listed positions are projected new hires and/or currently vacant.

54. NAME (F, P)	Rank	COURSES TAUGHT Including Term, Course Number & Title, Credit Hours (D, UN, UT, G) [Dual] Note – for substantive change prospectuses/applications, list the courses <i>to be taught</i> , not historical teaching assignments	ACADEMIC DEGREES & COURSEWORK Relevant to Courses Taught, Including Institution & Major List specific graduate coursework, if needed	OTHER QUALIFICATIONS & COMMENTS Related to Courses Taught
Francis Fluharty	Professor (Department Head)	None	MS, Ohio State University PhD, Ohio State University	ADS Administration
Jillian Bohlen	Associate Professor	ADSC 3400 (Physiology of Reproduction of Domestic Animals; 3 cr, Fall); ADSC 3620(L) (Dairy Cattle Production and Management; 3 cr; Fall); ADSC 4410 (Issues in Animal Agriculture; 3 cr; Spring); ADSC 4010E (Issues in Animal Agriculture; 3 cr; Summer)	MS, University of Georgia PhD, Clemson University	
Todd Callaway	Associate Professor	<b>NEW</b> ADSC 3410(L) (Comparative Anatomy and Physiology of Domestic Animals; 4 cr; Fall), ADSC 4360 (Ruminant Nutrition; 3 cr; Spring), <b>NEW</b> ADSC 4250 (Microbiology and Immunology in Companion and Food Animal Health; 3 cr; Fall); ADSC 4820 (Senior Seminar in Animal and Dairy Science; 1 cr; Fall/Spring)	MS, University of Georgia PhD, Cornell University	
Dylan Davis	Public Service	ADSC 3200(L); Livestock Evaluation and Selection	MS, University of Georgia	
Robert Dove	Associate Professor	ADSC 2010 (Introduction to Animal and Dairy Science; 3 cr; Fall/Spring/Summer), ADSC 3300 (Animal Nutrition; 3 cr; Spring), ADSC 3610(L) (Pork	MS, University of Missouri PhD, Iowa State University	ADS Administration

		Production and Management; 3 cr; Fall)		
Kylee Duberstein	Associate Professor	ADSC 2500L (Beginning Horsemanship; 2 cr, Fall), ADSC 4230(L) (Anatomy and Biomechanics of the Horse; 3 cr; Spring), ADSC 4390 (Equine Nutrition; 3 cr; Fall), ADSC 4500(L) (Operant Conditioning and Training of Horses; 3 cr; Spring)	PhD, University of Florida	
Pedro Fontes	Assistant Professor	ADSC 3600(L) (Beef Production; 3 cr; Spring)	PhD, Texas A&M University	
Holly Kinder	Lecturer	ADSC 2020 (Animals in Society; 3 cr; Fall/Spring), ADSC 2520 (Animal Welfare; 3 cr), ADSC 4520 (Animal Cognition and Behavior; 3 cr; Spring)	PhD, University of Georgia	
Daniela Lourenco	Associate Professor	ADSC 3110 (Introduction to Genetics of Livestock Improvement; 3 cr; Fall)	MS, Maringa State University, Brazil PhD, Maringa State University (Brazil) and University of Georgia	
Hongxiang Lui	Associate Professor	ADSC 4380 (Animal Growth and Development; 3 cr; Spring)	M.D., Henan Medical University (currently Zhengzhou University) M.Sc., Henan Medical University (currently Zhengzhou University) Ph.D., Beijing Medical University (currently Peking University)	
Dean Pringle	Professor	ADSC 3200(L) (Evaluation and Composition of Livestock; 3 cr; Fall), ADSC 3650 (Introductory Meat Science; 3 cr; Spring)	MS, University of Florida PhD, University of Nebraska-Lincoln	
Valerie Ryman	Assistant Professor	ADSC 3420 (Physiology of Lactation in Farm Animals; 3 cr; Spring), <b>NEW</b> ADSC XXXX (Microbiology and Immunology in Companion	MS, University of Georgia PhD, Michigan State University	

		and Food Animal Health; 3 cr; Fall); ADSC 4820 (Senior Seminar in Animal and Dairy Science; 1 cr; Fall/Spring)		
Alexander Stelzleni	Professor	ADSC 3650(L) (Introductory Meat Science; 3 cr; Spring), ADSC 4140 (Advanced Meat Science; 3 cr; Spring)	MS, University of Arkansas PhD, University of Florida	
Kari Turner	Associate Professor	ADSC 3630(L) (Horse Production and Management; 3 cr; Spring), ADSC 3670 (Companion Animal Biology and Management; 3 cr; Spring), ADSC 4430 (L) (Equine Exercise Physiology; 3 cr; Fall)	MS, Virginia Tech University PhD, Michigan State University	
Franklin West	Associate Professor	ADSC 3130 (Animal Biotechnology; 3 cr; Fall)	PhD, University of Georgia	

55. Explain your plan for new faculty and staff for the program:

a. *How many new faculty will be needed for this program over the next four years?* ○

*Explanation:*

No additional faculty are needed to begin this major. This major has been taught as an area of emphasis for many years, so faculty are in place to offer this as a major. As part of the curriculum review process, some current low-enrollment classes and duplicative courses have been eliminated to free up faculty EFT for new classes that will be offered in this shift from area of emphasis to major.

56. *How many new staff will be needed for this program over the next four years?* ○

a. Discuss why new or additional staff resources are needed. Consider staff needs, support services (i.e. advisement, faculty support, etc.)

No new staff are need for this major for the reasons given above (question 55)

### **F3. Facilities – complete the questions below:**

57. *Where will the program be offered?^ Mark all that apply*

- Main campus
- Satellite campus: Specify Here
- Other: Specify Here
- 100% Online

58. Will new or renovated facilities or space be needed for this program over the next four years?  
 No  
 Yes (If yes, complete the table below, inserting additional rows as needed).

**Capital Costs for Needed Facilities and Space**

Facility/Space Name	Gross Square Footage	Start Up Costs	Ongoing Costs	Est. Occupancy Date	Funding Source
<b>New Construction</b>					
	N/A	N/A	N/A	N/A	N/A
<b>Renovations and Infrastructure*</b>					
	N/A	N/A	N/A	N/A	N/A
<b>Purchases: Land, Buildings etc.</b>					
	N/A	N/A	N/A	N/A	N/A
<b>Lease space</b>					
	N/A	N/A	N/A	N/A	N/A
<b>TOTAL Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>		

\*Include the name of the building or location being impacted and what will need to be done. Infrastructure includes new systems such as: water, electrical, IT networks, HVAC etc.

59. Discuss the impact of construction or renovation on existing campus activities and how disruptions will be mitigated. Explain how existing programs benefit from new facilities and/or space(s) and changes to existing space.  
 N/A

60. Will any existing programs be negatively impacted (e.g. lose classroom or office space) by proposed facility changes? If so, discuss how the impacts of these changes will be mitigated.<sup>^</sup>  
 No facility changes are proposed.

61. Are any of these new facilities or major renovations listed in the table above (Question 57) NOT included in the institution-level facilities master plan?  
 N/A

62. Will any of the following types of space be required: instructional, fine arts, meeting, study, or dedicated office?

No (Move to Question 63).

Yes (If yes, complete question 62. Insert additional rows as needed).

63. Complete the table below. Specify if these spaces are existing or new in the table below.^ If new, provide the semester and year of completion.

Space	New Space (ASF)	Use Existing Space (as is) (ASF)	Use Existing Space (Renovated) (ASF)	Semester/ Year of Occupancy
Dry Labs (STEM related)		1113		
Wet Labs (STEM related)		829		
Dedicated Offices		6831		
Fine Arts Spaces <sup>1</sup>				
Classrooms		4077		
Meeting Rooms		1804		
Student Study Space		1551		
Other (Specify)				

<sup>1</sup>Fine arts spaces can include theatres, recital halls, visual arts studios, performing arts centers, recording studios, design labs, and other performance venues.

64. Are there facility needs related to accreditation?^ Are there any accreditation standards or guidelines that will impact facilities/space needs now or in the future? If so, please describe the projected impact.

N/A

#### F4. Technology

65. Identify any major equipment or technology integral to program start-up and operations. List any equipment or assets over \$5,000 (cumulative per asset) needed to start-up and run the program (insert rows as needed)

	Technology and Equipment	Start-up Costs	On-going Costs	Est. Start Date of Operations/Use
1	N/A			
2				
3				
4				

5			
6			
<b>Total Technology Costs</b>		<b>0</b>	<b>0</b>

**RISKS AND ASSUMPTIONS**

66. In the table below, list any risks to the program’s implementation over the next four years. For each risk, identify the severity (low, medium, high), probability of occurrence (low, medium, high), and the institution’s mitigation strategy for each risk. Insert additional rows as needed. (e.g. Are faculty available for the cost and time frame).

Risk	Severity	Probability	Risk Mitigation Strategy

67. List any assumptions being made for this program to launch and be successful (e.g. SACSCOC accreditation request is approved, etc.).

- a. Student enrollment will remain fairly consistent with enrollment currently seen in the Animal Biology Area of Emphasis: The department assumes that this change from area of emphasis to major will not cause many students to pursue different majors. Faculty are modernizing the curriculum to better fit both student demographics (e.g., most students come from non-farm backgrounds) and employment opportunities, so some increase in student enrollment in this major is expected, though an unmanageable amount of student growth is not anticipated.
- b. Continued access to an Animal Science academic advisor: The department currently has one full time academic advisor funded through the College of Agriculture and Environmental Sciences. This advisor works full time in the Animal and Dairy Science department and retainment/continuity in this position is critical to enable students to transition to new requirements without overburdening faculty with advising duties as they adapt to the new major.

**G. INSTITUTION APPROVAL**

Have you completed and submitted the signature page?

## APPENDIX I

Description of new courses that are pending approval

### Curriculum course descriptions

Prefix	Course Number	Title	Hours	Course Description	Prerequisites
ADSC	3410, 3410L	Comparative Anatomy and Physiology of Domestic Animals	4	This course will compare the anatomy and physiology of food and companion animals. Special focus will be paid to the anatomical structures of animals and their physiological functions and how they impact animal growth and health. Specific attention will be paid to how the individual physiological systems work together to maintain homeostasis of the animal to enhance growth and ensure animal health.	ADSC 2010 or ADSC 2400
ADSC	4250/ 6250	Microbiology and Immunology of Domestic Animals	4	Animals are explorers in a microbial ecosystem that can profoundly affect their growth efficiency and health and are protected from microbial threats by their immune system. This course will compare the interactions between the microbial world and the immune system of companion and food animals. Further attention will be focused on how the microbial ecosystem of the animal interacts to prime and educate the host immune system to serve as a mixed defensive system preventing pathogen colonization.	BIOL 1108

**APPENDIX II**  
Letters of support



College Of Veterinary Medicine  
Dean's Office  
501 DW Brooks Drive  
Athens, Georgia 30602  
TEL 706-542-3461 | FAX 706-542-8254  
www.vet.uga.edu

November 15, 2022

Board of Regents  
University System of Georgia  
270 Washington Street, SW  
Atlanta, GA 30334

Dear Distinguished Board Members,

The College of Veterinary Medicine at the University of Georgia supports the proposed undergraduate degree program in Animal Biosciences in the Department of Animal and Dairy Science.

Sincerely,

A handwritten signature in purple ink that reads "Lisa K. Nolan".

Lisa K. Nolan, DVM, PhD  
Georgia Athletics Association Distinguished Professor and Dean



UNIVERSITY OF  
**GEORGIA**

Biological Sciences Building, 400  
120 Cedar Street  
Athens, Georgia 30602  
TEL 706-542-1693 | FAX 706-583-0483  
biology@uga.edu  
biosciences.uga.edu

Franklin College of Arts & Sciences  
*Division of Biological Sciences*

November 22, 2022

Board of Regents of the University System of Georgia  
270 Washington Street, SW  
Atlanta, GA 30334

Dear Distinguished Board Members,

The Division of Biological Sciences at the University of Georgia supports the proposed undergraduate degree program in Animal Biosciences in the Department of Animal and Dairy Science.

Sincerely,

*Kristen R. Miller*

Dr. Kristen Miller  
Director, Division of Biological Sciences



Franklin College of Arts and Sciences  
*Department of Microbiology*

November 4, 2022

Board of Regents of the University System of Georgia  
270 Washington Street, SW  
Atlanta, GA 30334

Dear Distinguished Board Members,

The Department of Microbiology at the University of Georgia enthusiastically supports the proposed undergraduate degree program in Animal Biosciences in the Department of Animal and Dairy Science.

Sincerely,

Aaron P. Mitchell, Ph.D.  
Professor and Head of Microbiology



**Odum School of Ecology**  
**UNIVERSITY OF GEORGIA**

11 November 2022

Board of Regents of the University System of Georgia 270  
Washington Street, SW  
Atlanta, GA 30334

Dear Distinguished Board Members,

The Odum School of Ecology at the University of Georgia supports the proposed undergraduate degree program in Animal Biosciences in the Department of Animal and Dairy Science.

Your sincerely,

Sonia Altizer, Interim Dean  
UGA Athletic Association Professor of Ecology  
Odum School of Ecology  
University of Georgia



**UNIVERSITY OF  
GEORGIA**

**Warnell School of Forestry and Natural Resources**

Forestry, Fisheries and Wildlife,  
Natural Resources Management and Sustainability,  
Parks, Recreation and Tourism Management

*Office of the Dean*

November 4, 2022

Board of Regents of the University of System of Georgia  
270 Washington Street, SW  
Atlanta, GA 30334

Dear Distinguished Board Members,

The Warnell School of Forestry and Natural Resources at the University of Georgia supports the proposed undergraduate degree program in Animal Biosciences in the Department of Animal and Dairy Science.

Sincerely,

W. Dale Greene  
Dean

## Documentation of Approval and Notification

**Proposal:** Major in Animal Biosciences (B.S.A.)

**College:** College of Agricultural and Environmental Sciences

**Department:** Animal and Dairy Science

**Proposed Effective Term:** Fall 2023

### Approvals:

- Animal and Dairy Science Department Head, Dr. Francis Fluharty, 7/12/22
- College of Agricultural and Environmental Sciences Associate Dean, Dr. Josef Broder, 7/12/22

### Letters of Support:

- Division of Biological Sciences Director, Dr. Kristen Miller, 11/22/22
- Microbiology Department Head, Dr. Aaron Mitchell, 11/4/22
- Odum School of Ecology Interim Dean, Dr. Sonia Altizer, 11/11/22
- College of Veterinary Medicine Dean, Dr. Lisa Nolan, 11/15/22
- Warnell School of Forestry and Natural Resources Dean, Dr. W. Dale Greene, 11/4/22