

APPROVED BY SENATE
05/02/2016



ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Proposal to the Senate Educational Policy Committee

PROPOSAL TITLE: Revision of the Ph.D. program in Animal Sciences

SPONSOR: Steve Loerch, Professor and Head, Department of Animal Sciences, 300-5634, sloerch@illinois.edu

COLLEGE CONTACT: Laurie Kramer, Associate Dean-College of Agricultural, Consumer and Environmental Sciences

BRIEF DESCRIPTION: We seek to introduce the option for students with a baccalaureate degree to be able to enter the Ph.D. program in Animal Sciences directly, without the requirement for a master's degree. The baccalaureate-to-Ph.D. track has the same requirements including total, course-work, seminar, and thesis hour Ph.D. requirements as the baccalaureate-to-M.Sc.-to Ph.D. track. The only difference between both tracks is that students in the baccalaureate-to-Ph.D. track are required to pass a qualifying examination, and students in the baccalaureate-to-M.Sc.-to Ph.D. track are required to pass a master's thesis defense examination.

JUSTIFICATION. The proposed addition seeks to address three circumstances that developed in the past five years and motivate the present proposal.

First, a number of Animal Sciences programs at peer institutions including University of Wisconsin-Madison, Purdue University, Michigan State University, and Penn State University have a direct baccalaureate to Ph.D. track. Also, comparable programs at the University of Illinois at Urbana-Champaign have a direct baccalaureate to Ph.D. track (e.g. Nutritional Sciences, Neuroscience program). The absence of a baccalaureate to Ph.D. path in Animal Sciences puts this program at a disadvantage in student recruitment and retention.

Second, between 2009 and 2015, 22 students that received a M.Sc. in Animal Sciences, transferred to the Ph.D. program in Animal Sciences. The majority of these students were, at admission, applicants that wished to pursue a Ph.D. in Animal Sciences but had to register for the M.Sc. program first because this was the only path to the Ph.D. program.

Third, many fellowships that support graduate studies in the Department of Animal Sciences, such as the Coordination for the Improvement of Higher Education Personnel (CAPES), expect fellows holding a baccalaureate degree to be admitted into a Ph.D. program. The sole M.Sc. to Ph.D. track currently available in Animal Sciences hinders applications from students who have received these types of prestigious fellowships.

Programmatically, the baccalaureate-to-Ph.D. and baccalaureate-to-M.Sc.-to Ph.D. tracks will have the same requirements.

- 1) The baccalaureate-to-Ph.D. track requires a total of 96 hours, including at least 48 hours of graduate-level courses and seminar, 48 hours of thesis research, a qualifying examination, a preliminary examination, and a final dissertation defense or examination.

- 2) The baccalaureate-to-M.Sc.-to Ph.D. track requirements are a total of 96 hours including the baccalaureate to M.Sc. and M.Sc. to Ph.D. components.
 - a) The baccalaureate-to-M.Sc. requirements are a total 32 hours including at least 24 hours of graduate-level courses and seminar, 8 hours of thesis research, and a final thesis defense or examination.
 - b) The M.Sc. to Ph.D. requirements are a total of 64 hours including at least 24 hours of graduate-level courses and seminar, 36 hours of thesis research, a preliminary examination, and a final dissertation defense or examination.

The qualifying examination required from students in the baccalaureate-to-Ph.D. track follows a format similar to that used in qualifying examinations in the Neuroscience and Informatics Ph.D. programs. This examination includes a written and an oral component that offer students the opportunity to demonstrate general knowledge of Animal Sciences, with significant depth of knowledge in the discipline likely to be the focus of the student's dissertation research. The examination will be administered by an Examination Committee of four voting members of composition comparable to the preliminary or dissertation defense Examination Committees.

The mandatory annual graduate student evaluation including a student self-evaluation and evaluation from two faculty in the Department of Animal Sciences ensures that students in both tracks progress through their academic program in a successful and timely manner. In addition, the suggested timeline for master's thesis, qualifying, preliminary and Ph.D. dissertation defense examinations included in the departmental graduate student handbook offers the students a guideline of expected progress.

BUDGETARY AND STAFF IMPLICATIONS:

This proposal has no budgetary or staff implications and does not require changes in the number of course offerings. The new Ph.D. track will benefit on average 5 Ph.D. students per year that will be able to be admitted to their first choice program of studies. The additional track will also benefit the competitiveness of the graduate program in Animal Sciences to attract more applications and applications from baccalaureates financially supported by programs that require enrollment in a Ph.D. program of studies.

STATEMENT FOR PROGRAMS OF STUDY CATALOG:

Head of the Department: Steve Loerch
Graduate Program Coordinator: Sandra Rodriguez-Zas
110 Animal Sciences Laboratory
1207 West Gregory Drive
Urbana, IL 61801
(217) 244-0418
E-mail: ansci-gradprog@illinois.edu

Major: Animal Sciences
Degrees offered: M.S., Ph.D.

Major: Bioinformatics
Degrees offered: M.S.
Graduate Concentration: Animal Sciences

Medical Scholars Program: Doctor of Philosophy (Ph.D.) in Animal Sciences and Doctor of Medicine (M.D.) through the [Medical Scholars Program](#)

Graduate Degree Programs

The Department of Animal Sciences offers graduate work leading to the Master of Science and Doctor of Philosophy degrees in Animal Sciences. Fields of specialization include:

- animal breeding and genetics
- animal behavior
- biochemistry
- environmental physiology
- immunobiology
- meat science and muscle biology
- microbiology
- nutrition
- systems of animal management and production
- physiology of lactation
- physiology of reproduction

Beef and dairy cattle, horses, poultry, sheep, swine, and a variety of companion and laboratory animals are available for study.

The Department of Animal Sciences offers graduate work leading to the Master in Bioinformatics, Animal Science concentration. The genomic, transcriptomic and proteomic projects are generating large amounts of complex biological data that require effective storage, retrieval, analysis and interpretation. The bioinformatics degree program provides students with the skills necessary to augment the understanding and use of agricultural, biological and medical information and resources through the application of molecular, chemical, physical,

computational, statistical, mathematical and informatic techniques. Students interested in this program may come with undergraduate training in one of the following areas:

1. biological and agricultural sciences,
2. statistical, mathematical and computer sciences,
3. informatics and engineering sciences.

Graduates from the Bioinformatics program will be able to integrate basic and applied concepts in the three areas and applied them to biotechnology and medical research.

Admission

Candidates for admission to the M.S. and Ph.D. programs must have a bachelor's degree from an accredited institution equivalent to those from the University of Illinois at Urbana-Champaign. A grade point average of 3.0 or higher (A = 4.0) for the last two years of undergraduate work and for any graduate study is required for admission. Students must take the Graduate Record Examination (GRE) prior to admission or no later than the first semester after admission with departmental approval. The English proficiency requirement for admission follows Graduate College requirement. Emphasis is placed on a student's interest and ability in research as demonstrated by previous work and letters of recommendation. Admission is possible for fall, spring, and summer semesters.

Medical Scholars Program

The Medical Scholars Program permits highly qualified students to integrate the study of medicine with study for a graduate degree in a second discipline, including Animal Sciences. Students may apply to the Medical Scholars Program prior to beginning graduate school or while in the graduate program. Applicants to the Medical Scholars Program must meet the admissions standards for and be accepted into both the doctoral graduate program and the College of Medicine. Students in the dual degree program must meet the specific requirements for both the medical and graduate degrees. On average, students take eight years to complete both degrees. Further information on this program is available by contacting the Medical Scholars Program, 125 Medical Sciences Building, (217) 333-8146 or at www.med.illinois.edu/msp.

Graduate Teaching Experience

Experience in teaching is considered a vital part of the graduate program and is encouraged as part of the academic work of students in this program.

Financial Aid

Financial aid for graduate students is available in the form of fellowships, teaching and research assistantships, tuition and partial fee waivers, and traineeships. Qualified candidates are considered for financial support upon application. Graduate students making satisfactory

progress toward their degrees generally receive a full tuition waiver and a partial fee waiver, as well as a stipend.

Master of Science in Animal Sciences

Requirements	Hours
Lecture and laboratory classes (400- and at least 2 hours of 500-level courses; excludes ANSC 590 and ANSC 599)	22
Graduate seminar (ANSC 590) enrollment is required fall and spring semesters (2 hours required for degree)	2
ANSC 599 Thesis Research required for degree	8
Total Hours	32

Other Requirements¹

Other Requirements and conditions may overlap

Minimum Hours Overall Required Within the Unit: 8

Minimum 500-level Hours Required Overall: 12

A comprehensive oral examination concerning the thesis and other areas of animal agriculture is required.

Thesis Deposit Required: Yes

Minimum GPA: 3.0

¹ For additional details and requirements refer to the department's [Graduate Handbook](#) and the [Graduate College Handbook](#).

Master of Science in Bioinformatics, Animal Sciences Concentration

Requirements	Hours
From the Bioinformatics MS Biology core course list	4
From the Bioinformatics MS Bioinformatics core course list	4

From the Bioinformatics MS Computer Science core course list	4
Graduate seminar (ANSC 590) enrollment is required fall and spring semesters (2 hours required for degree)	2
ANSC 599 Thesis Research required for degree	8
Electives	14
Total Hours	36

Other Requirements¹

Other Requirements and conditions may overlap

A concentration is required.

Minimum Hours Overall Required Within the Unit: 8

Minimum 500-level Hours Required Overall: 12

A comprehensive oral examination concerning the thesis and other areas of Bioinformatics and Animal Sciences is required.

Thesis Deposit Required: Yes

Minimum GPA: 3.0

¹ For additional details and requirements refer to the department's [Graduate Handbook](#) and the [Graduate College Handbook](#).

Doctor of Philosophy in Animal Sciences (Entering with an approved Master's Degree)

Students must pass preliminary and final examinations administered by committees appointed by the dean of the Graduate College. The final examination is limited to a presentation and defense of the thesis research.

Requirements	Hours
Advanced lecture and laboratory courses (400- and 500-level courses; excludes ANSC 590 and ANSC 599)	20-28
Graduate seminar (ANSC 590) enrollment is required fall and spring semesters (4 hours required for degree)	4

ANSC 599 Thesis Research required for degree	32-40
Total Hours	64

Other Requirements¹

Other requirements and conditions may overlap

Masters Degree Required for Admission to PhD?	Masters level requirements must be met
Qualifying Exam Required:	No
Preliminary Exam Required:	Yes
Final Exam/Dissertation Defense Required:	Yes
Dissertation Deposit Required:	Yes
Minimum GPA:	3.0

¹ For additional details and requirements refer to the department's [Graduate Handbook](#) and the [Graduate College Handbook](#).

Doctor of Philosophy in Animal Sciences (Entering with approved baccalaureate degree)

Students must pass a qualifier examination and preliminary and final examinations administered by committees appointed by the dean of the Graduate College. The final examination is limited to a presentation and defense of the thesis research.

Students enrolled in this baccalaureate to Doctor of Philosophy program will not be granted automatically a Master in Animal Sciences degree. Students enrolled in the baccalaureate to Doctor of Philosophy program that wish to receive a Master degree will be transferred to the Master in Animal Sciences program and will be expected to fulfill the requirements to secure a Master degree. Students that secure a Masters in Animal Sciences can be transferred to the Masters to Doctor of Philosophy program.

Requirements	Hours
Advanced lecture and laboratory courses (400- and 500-level courses; excludes ANSC 590 and ANSC 599)	42-50
Graduate seminar (ANSC 590) enrollment is required fall and spring semesters (6 hours required for degree)	6

ANSC 599 Thesis Research required for degree	40-48
Total Hours	96

Other Requirements¹

Other requirements and conditions may overlap

Masters Degree Required for Admission to PhD? No

Qualifying Exam Required: Yes

Preliminary Exam Required: Yes

Final Exam/Dissertation Defense Required: Yes

Dissertation Deposit Required: Yes

Minimum GPA: 3.0

¹ For additional details and requirements refer to the department's [Graduate Handbook](#) and the [Graduate College Handbook](#).

CLEARANCES: (Clearances should include signatures and dates of approval. These signatures must appear on a separate sheet. If multiple departments or colleges are sponsoring the proposal, please add the appropriate signature lines below.)

Signatures

Sten Loerd

Unit Representative

3-17-16

Date:

[Signature]

College Representative

3/30/16

Date:

Graduate College Representative

Date:

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Department of Animal Sciences
College of Agricultural, Consumer
and Environmental Sciences
132 Animal Sciences Laboratory
1207 West Gregory Drive
Urbana, IL 61801



March 16, 2016

Associate Dean Laurie Kramer

College of ACES

Dear Dean Kramer,

We appreciate the participation of your office on the consideration by the College of ACES Courses and Curriculum committee of the new baccalaureate to Ph.D. track proposed by the Department of Animal Sciences. During the discussion of the proposal, the committee inquired about the academic fate of students that fail the qualifying examination.

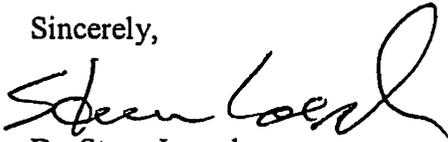
The policy regarding qualifying examination results follows the Graduate College guidelines for preliminary examinations. Decisions of the qualifying examination committee must be unanimous and are recorded on the Qualifying Exam Result form administered by the Department. The committee may make one of three decisions:

- Pass the student.
- Fail the student. The program will grant the student another opportunity to take the qualifying examination after completing additional course work, independent study, or research, as recommended by the committee. A new committee must be appointed for the second attempt. The new committee may, but does not have to, consist of the same members as the original committee. The outcome of the second exam must be pass or fail and no additional opportunities to retake the exam will be granted.
- Defer the decision. In this circumstance, the same committee must re-examine the student, the second exam must occur within 180 calendar days of the date of first exam, and the outcome of the second exam must be pass or fail.

The previous description will be available in the departmental Graduate Program Handbook. In agreement with similar petitions submitted for consideration of the Graduate College Executive Committee, this description is not included in the proposal. The departmental Graduate Program Handbook welcome and encourages students to discuss the impact of the results of any type of graduate program examination (i.e. qualifying, preliminary, or thesis defense) and corresponding alternatives with the faculty advisor and the departmental Graduate Coordinator

Attached is the proposal to the Senate Educational Policy Committee. The signature of the College representative is required for the proposal to proceed for Graduate College Executive Committee consideration. The approval of the Course and Curriculum committee and the College representative's signature are appreciated.

Sincerely,

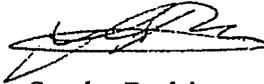


Dr. Steve Loerch

Head of Department

Department of Animal Sciences

University of Illinois at Urbana-Champaign



Dr. Sandra Rodriguez Zas

Graduate Coordinator

Cc:

Assistant Dean Soo-Yeun Lee

Assistant Dean Mary Lowry

Courses and Curriculum Committee

College of ACES

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

EP.16.75

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820



April 8, 2016

Bettina Francis, Chair
Senate Committee on Educational Policy
Office of the Senate
228 English Building, MC-461

Dear Professor Francis:

Enclosed is a copy of a proposal from the College of Agricultural, Consumer and Environmental Sciences and the Graduate College to add admission directly to the Ph.D. program in Animal Sciences for students with a baccalaureate degree.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Kathryn A. Martensen'.

Kathryn A. Martensen
Assistant Provost

Enclosures

c: J. Hart
S. Lee
L. Kramer
S. Loerch
R. Chappell
A. McKinney

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

College of Agricultural, Consumer
and Environmental Sciences

Academic Programs
128 Mumford Hall, MC-710
1301 West Gregory Drive
Urbana, IL 61801



March 30, 2016

Allison McKinney, Director
Academic Programs, Policy and Academic Services
Graduate College
204 Coble Hall
Campus MC-322

Dear Allison:

I am writing to request Graduate College review for a proposal to revise the Ph.D. program in the Department of Animal Sciences. It has been reviewed and approved by the College of ACES Courses and Curricula Committee. A copy of the proposal is attached in Senate format, along with a letter from the department providing answers to questions posed by the committee.

Thank you for your consideration. I look forward to receiving your reply.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sob Lee'.

Sob Lee
Assistant Dean for Honors and Curriculum
ACES Academic Programs

SYL/rhc

cc: S. C. Loerch
D. J. Miller
L. M. Redman
S. L. Rodriguez-Zas
ANSC C&C Binder