



SCHOOL OF VETERINARY MEDICINE
AND BIOMEDICAL SCIENCES

Institute of Agriculture and Natural Resources



SVMBS **GRADUATE HANDBOOK** **GUIDELINES FOR GRADUATE STUDIES**

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1. INTRODUCTION

The following is an overview of the School of Veterinary Medicine and Biomedical Sciences (SVMBS) graduate program with specific information about SVMBS' requirements for graduate students.

The information in this handbook and other University of Nebraska catalogs, publications or announcements is subject to change without notice. University offices can provide current information about possible changes.

2. DEGREE PROGRAMS

SVMBS offers both Master of Science (MS) and Doctor of Philosophy (PhD) degree programs. The master's degree program includes an MS in Veterinary Science (Options I, II and III). It and the PhD program (Integrative Biomedical Sciences) are administered through the Office of Graduate Studies at the University of Nebraska-Lincoln (UNL). The purpose and requirements for each MS Option are described in Section 16. The purpose and requirements for the PhD are described in Section 17.

3. APPLICATION AND ADMISSION

Applications for admission can be obtained by going to the UNL Office of Graduate Studies or SVMBS website. The application fee to apply for admission to the graduate program, as of July 2014, is \$50 and is nonrefundable.

Full-time employees of the university may, with their supervisor's approval, pursue graduate studies and may qualify for the tuition remission program. The SVMBS policy regarding employees taking courses is presented in Appendix B. Application procedures for admission to the graduate program are the same as for other students.

While SVMBS may accept a graduate student into its program, formal admission into the University of Nebraska Graduate College is officially done by the Office of Graduate Studies at UNL. The Office of Graduate Studies ensures that all necessary application materials are submitted and provides formal notice of admission. Students at UNL receiving graduate assistantships may begin their graduate studies at the commencement of either the fall or spring semesters, or during the summer sessions.

3.1 Deadlines for Application/Admission to Graduate School

Completed application materials must be received by the Office of Graduate Studies by January 15 of the year prior to the start of the semester in which a student is planning to enroll. International students should allow extra time for processing visa materials.

3.2 Requirement of the Department

All application materials must include:

- three letters of recommendation,
- statement of goals, and
- GRE scores.

The GRE test may be waived for students applying for the Master's program if approved by the SVMBS Graduate Committee. A TOFEL or IELTS score is required for all international students, unless the student has received a degree from a university where English is the major language.

4. GRADUATE PROGRAM SUPERVISION

The student's graduate program is developed through consultation between the student, the faculty advisor (major professor) and the Graduate Supervisory Committee. Jointly, they plan for meeting the requirements for the student's degree objective.

The MS and PhD Supervisory Committee should be appointed and meet with the student no later than the second semester after admission. If no Supervisory Committee has been formed by that date, a Supervisory Committee will be appointed by the SVMBS Graduate Committee. The program of studies must be prepared and a plan for the PhD/MS Thesis (Option I) research project, the MS report (Option II) or MS distance education program report (Option III) formulated jointly by the student, the faculty advisor, and the Supervisory Committee. To ensure timely completion of the degree objective, MS students should identify a major professor and a MS Thesis/Report topic by the end of the first semester in their MS graduate program. Similarly, PhD students should do so by the time they complete their second semester.

Many students admitted to the programs have, through prior correspondence, identified an area of interest and a probable faculty advisor. If a faculty advisor has not been chosen prior to beginning the program, the SVMBS Graduate Committee will assist with supervision and selection.

- The MS Supervisory Committee must consist of at least three (3) graduate faculty. All may be members of SVMBS unless a minor is declared, in which case the Supervisory Committee must contain one graduate faculty from the department in which the minor is declared. The Option II MS degree program requires a minor.
- The PhD Supervisory Committee will be composed of at least four (4) members of the University of Nebraska Graduate College, two of which, in addition to the advisor, must be graduate faculty at SVMBS. At least one of the Graduate Faculty Fellows on the Supervisory Committee must be external to the SVMBS faculty. The Supervisory Committee members must be selected in accordance with the student's research interests and career goals. The Supervisory Committee for both MS and PhD students must meet with the student at least once a year to monitor and evaluate the student's progress. A report of this meeting, with an indication of satisfactory or unsatisfactory progress, must be filed with the SVMBS office (VBS 120).

If a major concern arises during the program of study regarding the composition of the Supervisory Committee, including the faculty advisor, the Graduate Committee chair and director of SVMBS should be consulted so appropriate action can be taken.

5. COURSE REGISTRATION

Early registration by MyRed is available starting in March and October, respectively, for the spring and fall semesters. Please check the university academic calendar for the exact dates. General registration is held just prior to classes. Students should always use the SVMBS Call Number (VBMS or IBMS) when registering for any cross-listed courses, including those taught by other departments.

Graduate students who require certification as full-time students must be enrolled for **at least 9 credits during academic semesters** and **at least 6 credits during the summer sessions**. In the latter instance, this must be 3 credits per first and second five-week summer session or 2 credits in the eight-week session and 4 in the second 5-week session. Students requiring certification as three-fourths-time must enroll for at least 6 credits during academic semesters and 2 (4) credits during summer session. Half-time graduate student certification requires at least 4 credits per academic semester and 1 (3) credit for a summer session.

6. COURSE REQUIREMENTS

All SVMBS MS and PhD graduate students must complete two of the following biochemistry and/or biostatistics courses:

- Biochem 831, Biochem 832
- Statistics 801, Statistics 802

along with:

- Responsible Conduct of Research –Ethics

6.1 Responsible Conduct of Research

Students are required to complete TWO (2) noncredited online courses, which must be completed during the first semester of being accepted in SVMBS. The copies of the Certification of Completion for each course will need to be turned into the SVMBS office (VBS 120) to be kept in the students file.

1. [Responsible Conduct of Research](#) training offered from the Office of Research. This noncredited online RCR course is administered through blackboard.
2. The CITI RCR Course for Students and Investigators in Biomedical Sciences offered by the Consortium for IRB Training Initiative in Human Subjects Protections (CITI). <https://www.citiprogram.org/index.cfm?pageID=265> Enrollment and online training is free as long as individuals are enrolled or employed at UNL.

For the MS degree, a “**Memorandum of Courses**” form must be filed prior to receiving grades for more than half of the required courses, or a “**Program of Study**” form for the PhD program.

7. ACADEMIC PERFORMANCE REQUIREMENTS

All graduate students are expected to maintain a minimum overall grade point average (OGPA) of 3.0 or above. If the OGPA falls below 3.0, the student will be placed on probation for the next two (2) semesters, at the end of which he/she should bring the OGPA back to 3.0 or above. Failure to do so will result in the expulsion of the student from the graduate program unless the Graduate Committee finds extenuating circumstances to authorize an extension of the probationary period. Students will not be permitted to graduate with an OGPA below 3.0.

7.1 Requirements of the University

Credit in graduate-level courses is attained as follows:

1. A minimum grade of B is required for graduate credit in 800-level courses with 400 or lower counterparts within the student’s major department or area. A grade of B minus is not acceptable.
2. A minimum grade of C or P (pass) is required for graduate credit in 800-level courses in minor, collateral, or supporting areas of work. A grade of C minus is not acceptable.
3. A minimum grade of C or P (pass) is required for graduate credit in 900-level courses, or 800-level courses without 400 or lower counterparts. A grade of C minus is not acceptable.

When applied toward a doctoral degree program, only courses at the 900 level, or 800 level without 400 or lower counterparts, in the major school or interdepartmental area may be taken on a pass/no pass (P/N) basis. In minor, collateral, or supporting areas of work, 800-level courses with 400 or lower counterparts can be taken on a P/N basis.

A student failing to receive a minimum acceptable grade for graduate-level credit may not continue his/her program of studies without permission of the supervisory group or the SVMBS Graduate Committee concerned, which may require a special examination to determine the student’s qualification for further work.

8. GRADUATE SEMINAR

All graduate students must register for VBMS 909 Seminar, each fall and spring semester. This requirement can only be waived by approval from the Graduate Committee. Such approval must be requested in writing, with justification for the request, to the Graduate Committee Chair prior to the beginning of the semester. Seminar grading will be Pass/No Pass with 70% attendance required for a “Pass” grade. A minimum of 1 credit hour for MS and 2 credit hours for PhD students (in addition to those used in fulfillment of the degree program) may be claimed for a student’s Program of Studies.

8.1 Goals of the Graduate Seminar

1. To develop the ability of the graduate student to do research and to organize and present the resulting scientific information before their peers and faculty members.

2. To improve the ability of the graduate student to answer questions while in the position of presenter.
3. To improve the ability of the graduate student to listen to scientific presentations and ask relevant and critical questions concerning the subject at hand.
4. To visualize further research plans necessary to improve knowledge in the area of the presentation.
5. To impart a measure of current research activities and findings to peers and faculty members.
6. To increase their breadth of knowledge regarding different areas of science whether or not they are related to their main subject of investigation.

8.2 Seminar Presentation Requirements

MS Degree:

1. One presentation is required and it must be presented six months or more prior to the final oral examination.

PhD Degree

1. Students who have an MS degree: Two (2) seminar presentations in addition to the PhD final oral dissertation defense.
2. Students who do not have a MS degree: Three (3) seminars in addition to the final oral dissertation defense.
3. The seminars should be given approximately one year apart and the last one must be presented six months or more prior to the final oral dissertation defense.

8.3 Seminar Evaluations

Each speaker is evaluated by his/her peers attending the seminar presentation using an evaluation form (evaluation form in Appendix D). These evaluations are intended to help the student identify his/her strengths and weaknesses. At the end of the seminar presentation, the evaluation forms are summarized by the graduate secretary and distributed to the student presenter and his/her faculty advisor for review and discussion. If attending faculty complete the evaluation form, the additional comments will be included in the evaluation summary, with the score following the comments.

9. COMPREHENSIVE EXAMS

9.1 Comprehensive Examination for PhD Program

When the applicant's program of courses is substantially completed, a written comprehensive examination covering the appropriate area of specialization and related subjects will be administered by the applicant's Supervisory Committee. The applicant formally becomes a candidate for the doctoral degree when the Application for Candidacy Form attesting to the passing of the comprehensive examination and the completion of research tool requirements has been filed in the Office of Graduate Studies. Such a report must be filed **at least seven (7) months prior** to the final oral examination. If a PhD student should fail the comprehensive exam, another examination may not be held during the same semester or the same summer session in which the student failed. *Refer to Appendix C for detailed information.*

9.2 Comprehensive Examination for Master's Degree Program

Within 24 months prior to the date of graduation, a comprehensive (**written and/or oral**) examination is (are) required to cover the student's approved program of study. If a student fails to pass the comprehensive exam, their committee must file a report on the failure in the Office of Graduate Studies and indicate what the student must do before taking another examination. Another examination may not be held during the same semester or the same summer session in which the student failed.

10. COSTS AND FINANCIAL AID

Tuition rates are set by the Board of Regents and are subject to change annually. Standard semester fees and other service

charges are in addition. Full-time employees of the university may, with supervisor's approval, enroll for as many as 6 credit hours at \$1.00 per hour each academic semester and a total of 3 hours in the summer.

11. GRADUATE ASSISTANTSHIPS

Graduate assistantship is an employee classification the university uses to contract for certain services from individuals who are also pursuing graduate degrees. Graduate assistant appointments provided by the university are of two types: **Graduate Research Assistants (GRAs) and Graduate Teaching Assistants (GTAs).**

11.1 Graduate Assistant Responsibilities and Stipend Levels

GTAs are required to assist in teaching courses while GRAs are expected to assist with research or other activities as assigned. University policies are outlined in the UNL Graduate Studies Bulletin. Students with GRA appointments of 0.49 FTE are required to participate up to 20 hours per week in projects or activities in addition to their own graduate program as described below. GRA appointments of less than 0.49 FTE have lesser time commitments.

SVMBS has no full-time GTA positions but occasionally has received some GTA funds for specific individuals having specified teaching responsibilities. Students are encouraged to gain knowledge of teaching principles in accordance with the IANR Philosophy on Incorporating Teaching, Extension and International Experiences into Graduate Student Programs (Appendix E).

Fellowships and scholarships do not carry "service" commitments as do graduate assistantships. Some students may have graduate assistant appointments concurrent with partial fellowships/scholarships, in which case their service commitments are reduced commensurately.

Graduate assistantships are not uniform for all graduate students in the SVMBS, and various factors influence the stipend level. Students receiving graduate assistantships from the SVMBS are expected to apply for UNL, Center for Biotechnology, and other scholarships for which they qualify as a part of their responsibilities as a graduate student. Receipt of such fellowships/scholarships will enhance a student's academic record and thus benefit the student. In addition, the student may receive an incremental increase in stipend level.

11.2 Eligibility for Employment

ALL newly hired graduate assistants and those formerly employed who have been separated for more than 12 months *must complete a I-9 form* which establishes identity and employment eligibility. *This form must be completed on the first day of employment.*

11.3 Prerequisites for Holding a Graduate Assistantship

A graduate student must be admitted to a graduate degree program and must be enrolled full time in graduate coursework while on a GRA or GTA appointment.

Graduate policies at UNL stipulate (see Graduate Studies Bulletin) that full-time graduate students (0.49 FTE appointments) can work a maximum of 20 hours per week **outside of their own graduate program**, i.e., the coursework or thesis/dissertation research used to meet the requirements for their degrees. This 20-hour limit, which includes their service commitment to the university, is imposed to ensure that the student has time to gain the knowledge and experience necessary in a graduate program. Students who are receiving GRAs or GTAs of 0.33 Full Time Equivalency (FTE) or more are required to register for courses and work each semester according to the following schedule. They are also required to provide service (work) for the University (SVMBS) as shown below:

FTE of Graduate Appointment	Number of credit hours, Fall and Summer Semesters	Number Hours Work/Week
0.49 (Full-time appt.)	9 minimum, 10 maximum*	17-20
0.33	9 minimum, 12 maximum*	8-16

*Students must register for at least 3 credit hours during each 5-week summer session or 4 credit hours during the pre-session and 2 credit hours during the second 5-week summer session.

11.4 Eligibility for Graduate Tuition Waivers

A graduate student, while on appointment as a graduate assistant, is eligible for a waiver of nonresident tuition if the appointment is at least 0.33 FTE. The appointment must be continuous for the entire academic year, and the stipend received must be at least equal to the nonresident academic year tuition and fees for a full-time student. Eligibility for a tuition waiver for summer semester sessions is contingent upon the student having a graduate assistant appointment for the full terms of both semesters of the preceding academic year. The Office of Graduate Studies publishes guidelines for graduate assistantship eligibility for tuition benefits each year (**see Appendix F**).

11.5 Income Tax

Graduate students who are receiving assistantships that qualify them for tuition remission are not required to pay income tax on the tuition remission; however, tuition remissions granted under the UNL employee tuition program are regarded as taxable income. The university withholds federal and state income taxes as well as social security taxes as appropriate for the value of the tuition remission granted to employees under this program.

The stipend paid for graduate assistantships must be reported as taxable income and the university withholds income and social security taxes. However, most students are expected to receive tax refunds for this amount when they file their income tax return forms because of their low annual income. **Fellowships and scholarships are also taxable**, but the university *does not* withhold state and federal taxes on these. Students who are unsure about their tax liability are advised to visit with a tax consultant.

11.6 Vacations

Graduate students who have graduate assistant appointments above 0.33 FTE must schedule absences, vacations etc., with their major advisor and work supervisor. Paid vacations are not a part of the GRA/GTA appointment status because of the heavy requirements for completion of the MS and doctoral degrees. Information on an extended leave of absence can be found [here](#).

11.7 Renewal of Graduate Assistant Appointments

Graduate assistant appointments are made on a one-year basis unless otherwise specified in the initial letter of offer. Renewal of assistantships is based on satisfactory performance. Initial offers to students for multiyear appointments are made on the basis of satisfactory performance and are subject to termination if performance is not satisfactory. Unsatisfactory performance, either in regard to academic performance as stated in the Academic Performance Requirement section (page 3), or to performance of the service responsibilities of the appointment is the basis for terminating a graduate assistant appointment. Decisions that involve termination of appointments for reason of unsatisfactory performance of service responsibilities will be made jointly by other supervisor(s) of the graduate assistant, the SVMBS's Graduate Committee, and the director.

Nonrenewal of graduate assistant appointments may also occur for reason of lack of funds to support the stipend. Formal departmental commitments made to graduate students for multiyear appointments must be honored, but assistantships offered on a one-year appointment basis with annual renewal required, is subject to the potential of non-renewal if funds are not available to support the position, even if performance has been satisfactory. Every effort is made to continue support of assistantships, and SVMBS has never terminated a graduate assistant appointment for this reason, but students should recognize this potential exists.

12. HEALTH INSURANCE

A certain portion of the health insurance is paid by the SVMBS and a portion by the graduate student. Health insurance is required for international students, and is automatically billed with the tuition. All students registered for classes pay a facility fee when registering. Students who register for 7 or more credit hours qualify for doctor visitations at the University Health Center without cost. Those registered for 6 hours or less pay a fee for doctor visitations. In both cases, additional fees are charged for laboratory tests or other services. If the student has insurance, these fees may be paid by their insurance.

Eligible students enrolled may also insure their dependents; however, dependents may not use the University Health Center. Eligible dependents include the spouse (residing with the insured student), unmarried children who are under 19 years of age, not self-supported, and residing with the student. Dependent eligibility expires concurrently with that of the insured student.

More information on University health coverage is available from the University Health Center Business Office at 402-472-7435.

13. COMPLETION OF DEGREE REQUIREMENTS BEFORE END OF SEMESTER

GRAs are required to maintain a full-time status throughout their graduate program, but students completing their degrees before the end of a semester may request a waiver of this requirement. A form must be completed and approved by the faculty advisor and the Office of Graduate Studies. Failure to complete the form at the beginning of the semester may result in a demand for the graduating GRA to reimburse the university for the tuition that was paid on his/her behalf for that semester.

14. GRADUATE STUDENTS FROM INDUSTRY

SVMBS has adopted the following policies regarding graduate students who are employees of private industry businesses or corporations and are conducting part or all of their thesis/dissertation research in the laboratories of their employer

14.1 Advising

The student's Supervisory Committee must approve a corporate co-advisor. The co-advisor shall have a PhD and at least three years post-doctoral experience. This coadvisor should be recognized at least as an ex-officio member of the student's Supervisory Committee and be appropriately recognized regarding publication authorship. The major professor and the corporate co-advisor shall coordinate the student's research activities with consideration towards SVMBS's priorities and corporate interests. If problems or issues arise during the program or regarding a concern about the PI (major professor), the matter will be discussed with the Graduate Committee and the director of the school.

14.2 Research

If a corporation is supporting the student by payment of tuition and/or research support, it is recognized that the research may reflect their interests. Consequently, the research project shall be selected cooperatively by the major professor, the co-advisor and the student. The project must meet the approval of the student's Supervisory Committee, and the student's thesis/dissertation and manuscript(s), must be published according to the requirements set by the student's committee, SVMBS and the Office of Graduate Studies.

14.3 Contact

During active research outside SVMBS, it is expected that major professor-student contact shall occur at least once a week. Additionally, a monthly written report of research activities shall be submitted to both the major professor and the corporate coadvisor.

15. MASTER OF SCIENCE, OPTIONS AND REQUIREMENTS

SVMBS offers three options for an MS degree:

1. MS in Veterinary Science, Option I
2. MS in Veterinary Science, Option II
3. MS Option III through distance education

Option III through distance education is administered through the UNL Office of Graduate Studies and Great Plains Veterinary Educational Center (GPVEC).

An Option I thesis, requires completion of a research project and thesis.

An Option II MS does not require a thesis but requires more coursework and either 1 or 2 minors.

An Option III non-thesis requires completion of a scholarly paper. This will consist of designing and conducting a clinical research project, including an extensive literature review on the topic, completion of the project, writing it up in a format suitable for publication, and presenting the project orally as a part of the final examination for the degree. A student may not change options for the MS degree after having been admitted to candidacy, which involves filing a Memorandum of Courses with the Office of Graduate Studies. The Memorandum of Courses must be filed before the student has received grades (letter grades, no reports or incompletes) in more than one-half of the program. Specific requirements for each MS degree are as follows (additional information is available in the Graduate Studies Bulletins):

15.1 MS in Veterinary Science, Option I

15.1.1 Purpose

The primary purpose of offering the Option I MS degree program is to provide post-graduate level education in veterinary/biomedical disciplines, and training in research technology and philosophy as evidenced by completion of a research project including completion of a thesis.

15.1.2 Requirements of the University

1. Minimum 30 total semester credit hours
2. 20-24 semester hours of regular coursework
3. 6-10 semester credit hours of thesis research
4. Minimum 8 semester credit hours of 800/900 level courses (graduate courses only; no 400 level counterparts)
5. Half or more of the courses, including thesis, in the major subject; Veterinary and Biomedical Sciences (SVMBS Courses, **Appendix G**)
6. Minimum 18 months of study
7. Maximum 6 consecutive years

15.1.3 Requirements of SVMBS

1. VBMS 909 Seminar (2 credit hours; see Section 8, Graduate Seminar)
2. VBMS 899 Thesis Research (6-10 credit hours)
3. Biochemistry and/or Biometry requirements must be met.
4. Responsible Conduct of Research (Ethics) must be completed during the first term.

15.2 MS in Veterinary Science, Option II (Non-thesis)

15.2.1 Purpose

The primary purpose of offering the MS program Option II is to provide a broad-based graduate program for

students with special interest in diagnostic or clinical veterinary medicine, animal production, or other interests with lesser research objectives.

15.2.2 Requirements of the University

1. Offered upon the advice and approval of the major advisor, Graduate Committee and Office of Graduate Studies
2. Students must earn a minimum of 36 semester hours representing a major and either 1 or 2 minors.
3. A major and 1 minor must include not fewer than 18 major hours and 9 hours for the minor.
4. A major and 2 minors must include not fewer than 15 major hours and 9 hours for each minor.
5. In either case, at least 12 of the 36 hours must be exclusively graduate level (800 or 900) without 400 level counterparts.
6. A student must decide which option to pursue before they have completed more than one-half of their program of studies.

15.2.3 Requirements of the SVMBS:

1. This program must include a “creative component” (MS report) demonstrating substantial evidence of individual scholarly accomplishment e.g., a case report, a literature review or a research project. The MS report must be prepared in the format of a manuscript suitable for publication in a refereed journal and must be approved by the Supervisory Committee as a part of the final examination.
2. Biochemistry and/or Biometry requirements must be met. Responsible Conduct of Research (Ethics) must be completed during the first term.
3. A total of 3 credit hours are required for the independent study/creative component.
4. VBMS 909 Seminar, 2 credit hours (see Section 8, Graduate Seminar).
5. The final exam is comprehensive and may consist of oral, written or practical components.

15.3 MS in Veterinary Science, Option III (Distance Education Option)

15.3.1 Purpose

This option is designed for a D.V.M. interested in pursuing a graduate education in areas related to beef cattle production management.

15.3.2 Requirements of the University and the SVMBS

A minimum of 36 credit hours of graduate level coursework must be completed. At least 18 of these credits must be in courses that are exclusively for graduate students, i.e., 800/900 level with no undergraduate credit equivalent, and at least 18 of these credits must be in courses offered by SVMBS. The D.V.M. student can transfer credits from Statistics or Biochemistry from a previously attended university or college, but these are not required. Completion of a “Scholarly Paper” is required. **Responsible Conduct of Research (Ethics) must be completed during the first term.**

15.4 Examinations

Two major examinations pertaining to the MS Option I degree are required. The first is a written, comprehensive examination separate from but covering the individual courses taken in the program of study, and consisting of questions from the Supervisory Committee and appropriate faculty as decided by the major advisor. This must be taken within 10 months prior to the completion of degree requirements. The final examination includes a seminar or thesis defense describing the MS thesis research and conclusions (Option I), or the MS report (Option II) or the MS (Option III). This is open to the university community and invited guests. An oral examination follows, attended only

by the student and the Supervisory Committee. The Final Examination Report for the MS degree is due in the Office of Graduate Studies four weeks (three weeks in summer) prior to the oral examination. All incomplete grades and revalidation of courses must be cleared at this time.

15.5 Thesis and Publications

(Option I) or MS Report (Option II). The MS thesis and abstract for the Option I MS must be approved by the (PI) major professor prior to applying for the final examination. The thesis must be submitted electronically to the master's degree specialist in the Office of Graduate Studies at least two weeks prior to the final oral examination (one week in the summer). A hardcover-bound copy of the thesis final copy also must be presented to the SVMBS Office (VBS 120). Adherence to the university policies and deadlines is the responsibility of the student. Each student is required to prepare at least one manuscript, based on the research, for publication in a refereed scientific journal although acceptance of the paper is not a prerequisite to graduation. Similarly, the MS report (Option II) must be approved by the major professor prior to applying for the final examination.

16. PHD DEGREE IN INTEGRATIVE BIOMEDICAL SCIENCES

16.1 Purpose

To provide training in veterinary sciences, human and animal health with emphasis on comparative relationships to the biomedical sciences.

16.2 Requirements of the University

1. Program of Studies must consist of 90 credit hours, which includes dissertation hours up to 55 but no less than 12, no limit of research problems, didactic hours is up to the supervisory committee but the Office of Graduate Studies recommends approximately 9 credit hours.
2. Students on 0.49 FTE graduate assistantships are required to work 20 hours per week and register for 9 credit hours during each semester and 6 hours during the summer sessions.

16.3 Requirements of the SVMBS:

1. The student must complete at least nine didactic graduate level courses, six of which must be exclusive graduate courses i.e., 900 level or 800 level with no undergraduate (400) counterpart. The remaining three courses may be introductory graduate courses, i.e., 800 with undergraduate (400) counterparts.
2. Within these nine courses must be included two Biochemistry courses, or two Biometry courses or one of each, depending on the student's research area. Responsible Conduct of Research (Ethics) must be completed during the first term.
3. The student must also register for VBMS 909 (Seminar) each semester, until completion of the degree. Approval of the dissertation by the Supervisory Committee is contingent on evidence of acceptance of one or more **first author** publications in a peer reviewed scientific journal that is acceptable to the **Supervisory** Committee.

The Supervisory Committee may require research tools or techniques courses, but these may not be used to meet the basic course requirement.

17. GRADUATION

An application for graduation <http://registrar.unl.edu/graduation-application> must be completed at the outset of the semester or session in which graduation is planned. Deadlines for submission of thesis, completion of final exams, the filing of graduation, etc. are published each semester and can be found on the [Office of Graduate Studies website](#).

Approved by the Veterinary and Biomedical Sciences Department Graduate Faculty, Revised 7/2015.

APPENDIX A:

Addresses and Contacts of Graduate Offices

Chair, Graduate Committee

School of Veterinary Medicine and Biomedical Sciences
120 Veterinary Basic Sciences
University of Nebraska-Lincoln
P.O. Box 830905
Lincoln, NE 68583-0905

Phone: 402-472-2952
FAX: 402-472-9690
Email: svmbms@unl.edu

Office of Graduate Studies

University of Nebraska-Lincoln
1100 Seaton Hall
Lincoln, NE 68588-0619

Phone: 402-472-2875
FAX: 402-472-0589
Email: graduate@unl.edu

APPENDIX B

Policy on Attending Classes During Scheduled Work Hours For School of Veterinary Medicine and Biomedical Sciences Employees

“All full-time (1.00 FTE) permanent employees of the University of Nebraska-Lincoln are eligible to apply for participation in the employee scholarship program; however, participation is subject to approval of the immediate Supervisor and the SVMBS Director. Employees must be admitted to the University as students by the office of Admissions and Advising (108 Admin) and must have met all academic requirements for the course(s) to be taken. The program is limited to not more than 15 credit hours in any 12-month period (September-August).

“An Application for Tuition Remission form must be completed and have the signed approval of the employee’s SVMBS Director and the Personnel Office of the SVMBS before registration.

Employees taking advantage of the employee scholarship program should enroll in classes which are held during non-working hours. If the course(s) is (are) not scheduled during non-working hours, the employee’s hours may be rearranged (with the SVMBS approval) to accommodate enrollment.”†

All employees must obtain signed approval to take the course(s) from his/her faculty Supervisor before seeking approval from the SVMBS Director.

If an employee is attending class/classes during the regularly scheduled working hours of the lab/area, the time the employee is absent from the lab/area must be made up or charged to vacation time. Break times may NOT be “saved” to make up any time away from work.

Employees must be in a pay status as a regular employee on the first day of classes to be eligible for tuition remission. Employees separating from UNL within 30 days after the beginning of classes will be billed for the full tuition. The Human Resources Department administers the tuition remission plan. Employee tuition remission may increase taxable income. Contact the Payroll Department for more information.

†UNL Employee Handbook

APPENDIX C

Guidelines for Ph.D. Supervisory Committees

1. Development of Student's on Program of Studies

A report of the Supervisory Committee outlining a program of studies for the Ph.D. degree must be submitted to the Graduate Studies Office within 1 year of admission.

When credits earned at other institutions are included in the program, the work should be carefully evaluated both as to the institution attended and in relation to the proposed program.

After the Supervisory Committee has met to discuss the program of studies and to revise it as necessary, *one typed copy will be used to transmit the final action of the Supervisory Committee to the Office of Graduate Studies. A copy should be given to the Graduate support staff member prior to submitting to the Office of Graduate Studies.* Photocopies of the approved program will then be sent by the Office of Graduate Studies to the student and to all members of the Supervisory Committee for their records.

2. Changes in Program of Studies

Subsequent changes in the program that are approved by the Supervisory Committee should be submitted in writing by the Chair of the Supervisory Committee to the Office of Graduate Studies. Following approval, these changes will be entered on the original form, and a copy of the form showing the changes will be returned to the Chairperson of the Supervisory Committee, the department and the student. The doctoral program must be completed by 8 years from the time of filing of the Program of Studies with the Office of Graduate Studies.

3. Comprehensive Examination

The Report on the Comprehensive Examination is due in the Graduate Studies Office within 7 days after the date of the examination. This is only needed if the student did not pass his/her comps. Otherwise the Application for Candidacy will suffice.

4. Application for Candidacy.

At least 7 months prior to the final oral examination, after research tool requirements have been satisfied, and the Comprehensive Examination has been passed, the Chairperson of the Supervisory Committee is responsible for submitting the formal application to admit the student to candidacy. Forms for filing this application are available from the [Office of Graduate Studies](#) or the SVMBS Office.

Following admission to Candidacy, the student must register for at least one credit hour during each academic-year semester if no more than that are needed to graduate in a timely manner until he/she receives the doctoral degree, a "Full Time Student" form must be sent to the Office of Graduate Studies after registering. **This form is required of students on an assistantship only and must be submitted for each semester of registration.**

Matters Requiring Action by the Supervisory Committee for Ph.D.

1. Acceptance of official graduate credit from any other institution. Such credits should be carefully scrutinized both as to the institution attended and in relation to the proposed program. Credit for other than graduate level courses will not be approved.
2. Approval of graduate program at the University of Nebraska–Lincoln.
3. If required, determination of research tools and/or foreign language.
4. Authorization of arrangements for comprehensive written examinations.
5. Approval of the dissertation subject.

6. Acceptance of comprehensive examination and recommendation of student for admission to candidacy.
7. Approval of the dissertation and dissertation abstract.
8. The final oral examination (defense of dissertation).

Duties of the Chairperson

The Chairperson is responsible for transmitting to the Office of Graduate Studies:

1. Minutes of all meetings of the Supervisory Committee to the Graduate Secretary in the SVMBS office to be placed in the graduate students file.
2. A copy of the approved program of studies including transfer of official graduate credits from another institution. (FORMS AVAILABLE FROM THE OFFICE OF GRADUATE STUDIES OR SVMBS WEBSITE.)
3. Comprehensive Examination results due in the Graduate Office within 7 days after the date of the examination.
4. The formal application for admission to candidacy is submitted immediately after any foreign language and/or research tool requirements have been satisfied, comprehensive examination has been passed and at least 7 months prior to the final oral examination. (FORM AVAILABLE FROM THE OFFICE OF GRADUATE STUDIES OR SVMBS WEBSITE.)
5. Evidence of acceptance of dissertation material by a peer reviewed journal.

APPENDIX D

Graduate Seminar Evaluation Form

ATTENDANCE AND EVALUATION REPORT
VBMS 909 GRADUATE STUDENT SEMINAR

DATE: _____

SPEAKER: _____

EVALUATOR'S NAME: _____

RANK: FACULTY POST-DOCS (75%) STUDENT/STAFF (25%)
(Please Use whole numbers only; no fractions)

1. FORMAL PRESENTATION ASPECT (30 points)

- Was the presentation logically organized?
- Did the presentation style (loudness, confidence, enthusiasm, pace) foster communications of the investigator's work?
- Were visual aids appropriate, informative, and free of errors?

SUBTOTAL _____

2. SCIENTIFIC CONTENT (50 points)

- Was appropriate background provided?
- Was the hypothesis or question stated succinctly?
- Were procedures, methods appropriate?
- Were results described clearly? Were controls used effectively?
- Were conclusions consistent with the data? Was the work a significant contribution to the field?

SUBTOTAL _____

3. RESPONSE TO QUESTIONS, KNOWLEDGE (20 points)

- Were responses direct and insightful? Can the presenter discuss ideas freely?
- How well did the presenter handle questions to which she/he had no answers?
- Did the presenter understand the technical and conceptual aspects of the work?

SUBTOTAL _____

SUBTOTAL TOTAL _____

POINTS _____

COMMENTS:

APPENDIX E

IANR Philosophy on Incorporating Teaching, Extension, and International Experiences Into Graduate Student Programs

There is a growing concern among some IANR faculty and administrators that graduate students are encouraged to concentrate their efforts exclusively on research and are not provided opportunities to gain experience in teaching or extension or develop skills important for international agriculture assignments. The Institute of Agriculture and Natural Resources hereby adopts a philosophy that the programs of all Ph.D. and most M.S. degree-seeking students should include some experience other than research that is appropriate for their career objective. In addition, all Ph.D. students should gain skills in presenting research information, scientific writing, and preparation of grant proposals. International students should gain experience in teaching, extension, or academic administration, particularly the management of research programs.

A quality teaching experience involves several facets. Educational theory should be obtained from carefully selected courses such as Agricultural Education 805 or other courses offered by Teachers College. Ideally, these courses should require teaching a unit to classes. A well-designed practicum conducted by a highly qualified, seasoned instructor may be valuable as well. Teaching experience in laboratory and lecture settings is another desirable facet of graduate student training. A comprehensive teaching experience should provide an opportunity for actual classroom instruction. Extension theory can be obtained from Agricultural Education 833, but actual experience as an extension educator is desirable. Such experience can be obtained from employment as an extension assistant, through a practicum, and/or by informal training by an extension specialist or agent. Knowledge relevant to international agriculture can be obtained from completing language, history, or political science courses, seminars, a practicum with International Programs Division staff, and/or conducting dissertation research in another country. Administrative theory can be gained by completing Agriculture 810, Agriculture 415/815 (Political Science 415/815), a proposed Agricultural Education course in international research management, and/or certain business administration courses.

Each IANR department is encouraged to examine the current training being provided to their graduate students in terms of the skills needed for a variety of professional positions in their discipline. It is appropriate for departments to adopt internal policies which will ensure that all graduate students have the skills and training needed to become successful in all components of their career objective. It is recommended that the student's supervisory committee discuss career objectives with him/her, identify training and experiences appropriate for the student's interest, and formalize the activities that the graduate student will complete by a listing on the "Memorandum of Courses," MS program or "Program of Studies," Ph.D. program.

APPENDIX F

Guidelines for Graduate Assistantship Eligibility for Student Benefits

Enrollment requirements

Fall and spring: To hold a graduate assistantship a student must be admitted to a department or major area with a specific graduate degree objective. **A graduate assistant must be enrolled for credit during the fall and spring semesters.**

Summer: Graduate assistants are not required to register for courses during the summer term. Graduate assistants employed in the summer but who are not registered for courses during the summer term are subject to FICA and Medicare taxes, fees for recreation center usage, limited access to libraries, and health center fees.

International students

All international graduate students who wish to be employed as teaching assistants at UNL must attend the [International Teaching Assistant Institute](#). The summer institute, a concentrated 90-hour program, is held the last week of July and the first week in August. For more information on the availability of assistantships, contact the appropriate departmental graduate committee chair.

Benefits

Tuition remission of up to 12 hours per semester is provided as a benefit of eligible assistantship employment.

Students holding eligible assistantships are provided basic individual student health insurance coverage at reduced cost to the student. The student health insurance plan covers accidents and illnesses to a maximum of \$250,000 per policy year.

If a student resigns or the assistantship is terminated during the semester before four (4) full months of service have been completed, all tuition benefits will be lost. The student is then responsible for paying the total tuition cost and health insurance premium.

To be eligible for benefits, an assistantship needs to meet all of the following criteria:

1. The appointment is continuous for 4 full months within the semester.
2. The stipend meets the minimum requirement set by the Office of Graduate Studies.
3. The assistantship or combination of assistantships in one or more departments totals at least 13.33 hours and no more than 20 hours per week.

For more information

The [Graduate Bulletin](#) provides a detailed explanation of benefits and requirements. Further questions can be directed to [Jane Schneider](#).

APPENDIX G

School of Veterinary Medicine and Biomedical Sciences Courses

TBD—To be determined

Please check the Graduate Catalog for current classes being offered.

Course number	Course title	Cross listing	Credit hours	Semester taught	Instructor	Comments
VBMS 101	Success in Veterinary Science		1	Fall	TBD	Lec
VBMS 303	Principles and Prevention of Livestock Diseases		3	Spring	Kelling	Lec
VBMS 403	Integrated Principles and Prevention of Livestock Diseases		4	Spring	Kelling	Lec
VBMS 407	Intro to Veterinary Anatomy		4	Spring	Kammermann	Lab/Lec
VBMS 408	Functional Histology	BIOS 808	4	Fall	Kammermann	Lec 2/Lab 2
VBMS 410	General Pharmacology and Toxicology		4	Spring	Franco Cruz	Lec 4
VBMS 417	Neurobiology: Cells to Senses		4	Spring	Sollars	
VBMS 424	Basic Molecular Infectious Diseases		3	Spring	Barletta	Even years
VBMS 441	Pathogenic Microbiology	BIOS 841	3	Spring	Somerville, Loy, Barletta	
VBMS 452	Intro to Molecular Virology and Viral Pathogenesis		3	Fall	TBD	Even years
VBMS 488	Exploration of Production Medicine (GPVEC)		2	Summer	TBD	Lec
VBMS 496	Independent Study in Veterinary Science		1-5	Fall/Spring	TBD	
VBMS 499	Honors Thesis		3-6	All	TBD	
VBMS 805	Introduction to Mechanisms of Disease		3	Spring	TBD	Lec
VBMS 808	Functional Histology	BIOS 808	4	Fall	Kammermann	Lec 2/Lab 2
VBMS 811	Introduction to Veterinary Epidemiology		2	All	TBD	Lec/Lab
VBMS 820	Molecular Genetics	BIOS 820	3	Spring	Atkin	Lec
VBMS 824	Basic Molecular Infectious Diseases		3	Spring	Barletta	Lec
VBMS 830	Veterinary Anatomy I		6	Fall	Kammermann	Lec/Lab
VBMS 831	Veterinary Anatomy II		4		Kammermann	Lec/Lab
VBMS 840	Microbial Physiology	BIOS 840	3	Fall	Nickerson	Lec
VBMS 841	Pathogenic Microbiology	BIOS 841	3	Spring	Somerville, Loy, Barletta	
VBMS 842	Endocrinology	ASCI 842/ BIOS 842	3	Fall	Cupp	Lec

Course number	Course title	Cross listing	Credit hours	Semester taught	Instructor	Comments
VBMS 843	Immunology	BIOS 843	3	Fall	Brown	Lec
VBMS 845	Animal Physiology I	ASCI 845/ BIOS 813	4	Fall	McFee	Lec/Lab
VBMS 846	Animal Physiology II	ASCI 846/ BIOS 814	4	Spring	McFee	Lec/Lab
VBMS 847	Interdisciplinary Concepts in Beef Production		3	Fall/Spring	TBD	Lec
VBMS 848	Intro to Veterinary Biotechnology		1-2	Fall	TBD	Lec
VBMS 852	Intro to Molecular Virology and Viral Pathogenesis		3	Fall	TBD	Even years
VBMS 899	Masters Thesis		6-10	All	TBD	
VBMS 901	Diagnostic Techniques		1-10	Fall/Spring	TBD	
VBMS 908	T-cell Biology; Repertoire & Effector Functions		3		TBD	Even years
VBMS 909	Seminar		1	Fall/Spring	TBD	
VBMS 910	Topics of Immunology		3	Fall	Tait	Odd years
VBMS 919	Regulation of Eukaryotic Gene Expression		3	Spring	TBD	Lec
VBMS 920	Measurement of Animal Disease and Production		2	Fall	TBD	Lec
VBMS 921	Analytic Observational Studies in Veterinary Epidemiology		2	Fall	TBD	Lec
VBMS 925	Critical Reading of the Epidemiology Literature		1		TBD	Lec
VBMS 930	Advanced Food Animal Production Medicine		2	Spring	TBD	Lec/Lab
VBMS 942	Microbial Genetics		3	Fall	Blum	Odd years
VBMS 944	Immunovirology		3		TBD	
VBMS 948	Concepts in Experimental Immunology		3	Spring	TBD	Lec
VBMS 949	Vaccinology		2	Spring	TBD	Even years
VBMS 950	Medical Molecular Virology	BIOS 950	3	Fall	Pattnaik/Wiebe	Odd years
VBMS 951	Advanced Molecular Infectious Disease		3	Spring	Barletta	Lec
VBMS 964	Signal Transduction	BIOS 964	3	Spring	Franco Cruz	Even years
VBMS 966	Advanced Viral Pathogenesis	BIOS 966	3	Fall/Spring	Wood	Alternate years
VBMS 975	Seminar in Veterinary Histopathology		1	Fall/Spring	Brodersen	
VBMS 996	Research on Selected Problems in Veterinary Science		1-10	All	TBD	
VBMS 998	Special Topics in Veterinary Science		1-10	All	TBD	
IBMS 999	Doctoral Dissertation		1-24	All	TBD	

APPENDIX H

PhD Portfolio

The Graduate Supervisory Committee will meet at least annually to evaluate the student's progress and advise the student hereof. The student is advised to assume responsibility for scheduling such meetings. Concerns about marginal or poor progress, will be explained to the student along with remedial suggestions or requirements and criteria for evaluation of progress. Written summaries of these meetings will be prepared, with copies to the student and the IBMS Graduate Committee for review and placement in the student's file.

The student shall initiate a Graduate Student Portfolio at outset and maintain it throughout the training program. This Portfolio will be updated before each Supervisory Committee meeting and used by the Committee in evaluating the student's progress. The guidelines for the Graduate Student Portfolio are as follows. The suggested format is that of a curriculum vitae that is updated periodically, except for items that are one-time entries (items 1, 2 and 10).

1. A statement of explanation for the choice of graduate field, the expectations for learning in the student's chosen field of study, and the student's career goals (less than one page in length), prepared for the initial committee meeting.
2. A statement of what high ethical standards means to the student (one paragraph is sufficient), prepared for the initial committee meeting.
3. A statement of learning achievements (one or two paragraphs), updated at the end of each semester.
4. Research techniques learned, updated each semester.
5. Seminars presented, updated each semester.
6. Papers presented at local or national meetings and publications (submitted, accepted and published), updated each semester.
7. Teaching exercises engaged in and teaching techniques used and a self-assessment of teaching effectiveness, updated each semester.
8. Skills developed in use of information technology, updated each semester.
9. Involvement in technology transfer or related activities, updated each semester.
10. For final year students: An updated description of what high ethical standards means to you now. How have your career goals and employment expectations changed?

APPENDIX I

Master's Degree (MS) forms and applications

Please use the following link to access the most current MS forms and applications on the Office of Graduate Studies website: <http://www.unl.edu/gradstudies/current/degrees/masters>

APPENDIX J

Doctoral Degree (Ph.D.) forms and applications

Please use the following link to access the most current Ph.D. forms and applications on the Office of Graduate Studies website: <http://www.unl.edu/gradstudies/current/degrees/doctoral>.



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