The purpose of this handbook is to provide faculty and students with the necessary information for successfully completing the requirements and expectations of the Veterinary Medicine (VMED) graduate program. Included are specific program requirements and advice for students in the M.S., Ph.D., and combined D.V.M./Ph.D. programs.

Additional sources of information for VMED graduate students include:

1) The Graduate Program Catalog for the University of Minnesota contains the primary information that students need for their graduate studies. The catalog provides information on financial assistance, housing, and registration. Access online at http://www.catalogs.umn.edu/grad

2) General information for students is also available on the Graduate Education website at http://www.grad.umn.edu/

3) The VMED program website at: https://www.vetmed.umn.edu/education-training/ms-and-phd-programs/ms-and-phd-veterinary-medicine

The information in this handbook and other University catalogs, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes. This document is available in alternative formats on request.
THE GRADUATE PROGRAM IN VETERINARY MEDICINE

A. OBJECTIVES

The mission of the Veterinary Medicine graduate program is to promote science-based research and provide high quality education to develop scientists working to improve animal health and well-being in the interface of animals, humans and the environment.

Program Goals:
- Prepare independent basic, applied, and translational scientists for successful careers in academia, industry, or government.
- Foster development of specific skills including leadership, communication, independent and critical thinking, teaching, interdisciplinary research in collaborative environments, scientific and grant writing, experimental and analytical methods
- Contribute to the body of knowledge in basic, translational, and applied sciences in animal health and well-being, and emerging and zoonotic threats

B. ADMINISTRATIVE STRUCTURE

B.1 Director of Graduate Studies (DGS)
Primary administrative responsibility for the program is vested in the Director of Graduate Studies. The DGS must be a tenured or tenure-track faculty member of the VMED Graduate Program, and must hold a Ph.D. degree in a relevant field from an accredited university. The selection of the DGS is made via a nomination and election process by the VMED faculty. The DGS is elected by a simple majority of the votes received. The DGS appointment is approved by the Dean of the College of Veterinary Medicine on the recommendation of the ADGP. The DGS term is three to five years, with annual review by the faculty as conducted by the PAC. The DGS cannot serve more than two consecutive terms. The DGS will be reviewed annually by the ADGP.

The specific responsibilities of the DGS include:
1) Communicate with the Associate Dean for Graduate Programs (ADGP) regarding decisions to accept new students or terminate existing students.
2) Administrative responsibility for the program.
3) Lead student recruitment efforts and facilitate review of student applications by the Program Advisory Committee (PAC). Approval will be based on the consensus of the PAC. Admission will be recommended when a faculty member has accepted responsibility for advising and funding the prospective student or the VMED program awards a first year fellowship.
4) Hold VMED faculty meetings at the minimum of one per semester.
5) Hold annual meetings with VMED graduate students to discuss matters of governance and curriculum.
6) Conduct an annual review of the program, including its policy and guidelines. Faculty will be asked to assess the current status of the graduate program and recommend plans for its continued development. Recommendations will also be solicited from graduate students. Results of the program evaluation will be communicated to the faculty and students and maintained on file.
7) Conduct, in concert with the PAC, annual reviews of individual graduate student progress within the program. With the aid of tracking forms maintained for each student, progress toward completion of his/her degree will be assessed. Problems identified during the review process will be addressed in consultation with the graduate adviser.
8) Establish short-term and long-term goals for the program and plans for achieving them.
9) Conduct, together with the PAC, reviews for faculty with graduate education responsibilities. Individual faculty will be reviewed every five years.
10) Provide leadership in developing and maintaining the VMED curriculum.
11) Disseminate information concerning fellowship and training opportunities for graduate students and assist in the selection of program nominees for Graduate School Fellowships and Awards.

B.2 Program Advisory Committee (PAC)
The Program Advisory Committee consists of 5 VMED faculty members selected at large from within the program; one graduate student representative, and the current DGS. Faculty members of the PAC will be elected by the graduate faculty to serve a three-year term, with elections staggered such that one or two members are elected each year. The immediate past DGS serves as an ex-officio PAC member for one year. The student representative’s participation in PAC meetings is confined to matters of general administrative and educational policy and does not extend to matters that relate to the progress of individual graduate students, or to the applications of prospective graduate students.

The DGS will ask a member of the PAC to serve as interim DGS when the DGS is away. Electronic records will be kept of all committee deliberations. Decisions will be reached by consensus. The faculty establishes the general policies of the VMED graduate program. The PAC administers these policies and provides a broad base of input from the signature programs research emphases within the veterinary medicine graduate program. The PAC serves both faculty and students in the maintenance of academic standards, without impinging on the adviser/advisee relationship, through periodic reviews of the progress of all VMED graduate students and faculty. The PAC will present recommendations to the VMED faculty on matters such as changes in program policy, as well as any major issues or problems as needed.

Specific responsibilities of the PAC include:
1) Recruitment, review and ranking of new student applications.
2) Approval of individual student graduate degree programs and examining committees.
3) Review of graduate student progress in conjunction with the DGS.
4) Review of faculty with graduate education responsibilities appointment.
5) Review of curriculum and graduate program policies.
6) Annual review of DGS.

B.3 Associate Dean for Graduate Programs (ADGP)
The Associate Dean for Graduate Programs is appointed by, reports to, and serves at the discretion of the Dean of the College of Veterinary Medicine, in consultation with CVM leadership. The ADGP is to be reviewed annually by the Dean, DGSs, and other CVM Leadership as determined by the Dean. The ADGP provides support and strategic direction for the College, seeking to enhance the vision and vitality of its graduate degree training programs. In collaboration with College leadership, DGS and faculty, develops and implements the strategic plan for the College’s graduate programs.

Specific responsibilities of the Associate Dean for Graduate Programs:
1) Develop strategic plan to ensure growth and excellence of the CVM graduate programs.
2) Increase awareness and visibility of graduate programs at the University, AHC, and Collegiate levels.
3) Represent graduate programs at collegiate level; liaison with College leadership and DGS.
4) Represent graduate programs interests in collegiate budget process.
5) Facilitate graduate programs reviews to provide effective assessment of graduate programs.
6) Oversee collegiate training grant programs to increase funding opportunities.
7) Provide leadership in the recruitment and retention of high quality graduate students.
8) Identify sources of funding for Ph.D. trainees, including emergency or bridge funding.

B.4 Office of Graduate Programs (OGP)
The College of Veterinary Medicine is the administrative home for the VMED graduate program. The OGP oversees the graduate programs housed within the College. It functions as the student services office for all students enrolled in the graduate programs of the college. Further, this office provides leadership and support in new training initiatives and coordinates interactions between graduate programs within the College.

The office is staffed by a Graduate Program Coordinator and a Graduate Program Associate who report to the Associate Dean for Graduate Programs. The responsibilities of the Office of Graduate Programs staff are identified in collaboration with the DGS and the ADGP.
Specific responsibilities of the Office of Graduate Programs:
1) Respond to program inquiries and requests.
2) Maintain current recruitment materials.
3) Maintain a database of prospective students.
4) Process new applications, prepare applicant files for evaluation by the PAC, and store a record of applicants for each academic year.
5) Coordinate Recruitment Day for prospective students.
6) Organize New Student Orientation prior to the start of fall semester.
7) Coordinate course schedule and online registration process.
8) Provide general student services specific for graduate student population.
9) Liaison between students and Graduate Student Services and Progress Office (GSSP).
10) Oversight of student academic program and progress, including annual progress reports and annual thesis committee meetings.
11) Resource for all students and faculty on university policies impacting graduate programs.
12) Complete exit interviews with students leaving the VMED program.
13) Maintain an up-to-date website describing the VMED program.
14) Maintain e-mail lists for graduate students and faculty.
15) Maintain student and faculty files and database.
16) Maintain database of alumni and create quarterly alumni newsletter.
17) Record and maintain notes of PAC and graduate faculty meetings.
18) Represent Needs of graduate programs and students on university committees for graduate education.

C. FACULTY with GRADUATE EDUCATION RESPONSIBILITIES

Faculty with Graduate Education Responsibilities represent the establishment of an academic community in which the commitment to scientific discovery is coupled with the desire to train, advise and nurture graduate students. The goal of the faculty is to provide graduate students with training which will equip them for careers in academia, industry, or government service, and at the same time allow ample opportunity to develop initiative and self-reliance. Graduate education is fundamentally a dynamic process between faculty and students. Faculty should be committed to teaching the skills and techniques necessary for graduate students to generate new knowledge. Faculty should also assist graduate students in maintaining focus on degree completion. Faculty members who serve as major advisers have direct responsibility for administering the programs of their graduate students. In addition, faculty assume responsibility for maintaining the standards of the graduate programs.

The responsibilities of the VMED faculty with graduate education responsibilities include:
1) Serve as primary thesis adviser for VMED graduate students.
2) Serve on examining and thesis committees.
3) Teach VMED courses.
4) Participate in the VMED graduate program seminar series via regular attendance, presenting seminars and by providing evaluations of student seminars.
5) Serve on the PAC if elected and ad hoc VMED graduate program committees as requested.
6) Attend VMED faculty meetings.
7) Promote the VMED graduate program.
8) Maintain an active research program as demonstrated by the publication of at least five primary authorship (as determined by discipline) papers of original research in a peer-reviewed journal in the five-year period preceding the evaluation.
9) Conduct themselves in a professional manner in accordance with University of Minnesota Policies regarding student-mentor relationships and scientific ethics.

C.1 Faculty with Graduate Education Responsibilities Appointment
VMED Faculty are appointed to either the Senior Member (SM) level or the Member/Advising (M2) level. Individuals must be classified as University faculty or adjunct faculty or have an exception granted by the ADGP.
Established or tenure track faculty who have advised graduate students should be considered for the SM level, while junior faculty who have not advised graduate students should be considered for the M2 level. New faculty members are elected to the program by the VMED PAC. Applicants submit a C.V., a brief statement on their graduate training/teaching philosophy, previous mentoring experience, and how they plan to contribute to the VMED Program, as well as a letter of support from a current VMED faculty member. This information is reviewed by the PAC and voted on. To be admitted to the program, the applicant must be approved by a majority vote of the PAC. The decision to admit the applicant is based on the quality of the applicant’s research program, written statement on graduate education, and training record or potential for training graduate students. The successful applicant will be invited to present a seminar in either the graduate programs seminar series (CMB/VMED8550) or the CVM Research seminar series. Program faculty are expected to conduct themselves in accordance with University policies especially those pertaining to graduate education [https://www.grad.umn.edu/about/policiesgovernance](https://www.grad.umn.edu/about/policiesgovernance)

To be appointed at the Member/Advising (M2) level, faculty must hold an earned doctorate or equivalent from an accredited institution. Faculty appointed at the M2 level can:

- advise M.S. students or co-advice with a senior member, a Ph.D. student
- chair and sit on M.S. examining committees as well as be a reviewer for the M.S. thesis
- sit on Ph.D. preliminary examination committees
- sit on Ph.D. preliminary and final examining committees as well as be a reviewer for the Ph.D. thesis

To be appointed as a Senior Member, faculty must be tenure or tenure track, hold a Ph.D., D.V.M. or M.D. degree in a relevant field from an accredited university. Faculty appointed at the Senior Member (SM) level can:

- Advise M.S. or Ph.D. students
- Chair and sit on Ph.D. preliminary examining committees
- Chair and sit on M.S. and Ph.D. final examining committees
- Serve as reviewer for M.S. and Ph.D. thesis

Faculty will be re-appointed every five years provided that they have carried out their responsibilities in a satisfactory manner as determined by an evaluation by the PAC. The objective of the review process is to ensure that faculty members meet the criteria for continued membership by participating in the activities listed below during the previous five year period. Graduate faculty members who have not fulfilled the minimum requirements will be asked to change their membership status or submit plans for increased participation.

To be reappointed, faculty must demonstrate:

1) They have an active research program as demonstrated by the publication of at least five primary or senior authorship (based on discipline) research or original data papers in peer-reviewed journals in the five year period preceding the evaluation.

OR

2) They have had a Ph.D. or M.S. student complete their thesis and degree under their tutelage within the five-year period, or be in the process of training a Ph.D. student or M.S. student at the time of evaluation.

C.2 Considerations for Terminating Faculty Membership

- Faculty who have retired or resigned from the University of Minnesota will lose their graduate faculty appointment. They may continue to advise students and serve on committees which were approved prior to their departure, but they may not advise new students or participate in new committee activities.
- Faculty may voluntarily resign.
- Faculty members who do not adhere to criteria for continued membership may be asked to relinquish membership.

C.3 Faculty as Student Advisers

Each VMED student has a faculty adviser. The adviser must be a member of the VMED faculty and advisers of Ph.D. students must be at senior member level. Those faculty who are at the member/advising level can co-advice Ph.D. students or can advise M.S. students. Students who are in a residency program must have a research adviser, separate from and in addition to, their clinical adviser.
The responsibilities of graduate student advisers include:

1) Helping the student identify a novel and testable hypothesis and providing an experimental system with which to test the hypothesis.
2) Ensuring that adequate funds are available to support the student’s stipend and fringe benefits and the purchase of supplies required for the student’s thesis project.
3) Consulting with the student on design and interpretation of experiments.
4) Consulting with the student on coursework.
5) Assembling the thesis committee in accordance with guidelines and convening the committee no less than once every 12 months to review advisee’s achievements and to set goals for the coming year. The adviser will ensure a Thesis Committee Meeting Summary Report is completed by the committee chair and submitted to the Graduate Programs Coordinator.
6) Assisting in preparation and attending the student’s seminar presentations.
7) Working with the student to identify, read, and critically evaluate scientific literature relevant to the thesis project.
8) Critically and expeditiously reviewing the student’s thesis.
9) Assisting the student in submitting and publishing original research in peer-reviewed journals.
10) Assisting the student in making professional contacts outside of the University and in obtaining subsequent employment.
11) Ensuring that all research and academic activities of the advisee are conducted in agreement with current ethical standards.

D. GRADUATE STUDENTS

The recruitment of new graduate students is the combined responsibility of the DGS, the PAC, and all graduate faculty within the program. The graduate program should strive continually to obtain training grants, graduate fellowships, and scholarships by maintaining the highest standards of quality for both its faculty and students. The program should also strive for increased opportunities and competitiveness in the D.V.M./Ph.D. combined degree program.

D.1 Admission Evaluation Procedures

The preferred performance standards prescribed by university policy, with several graduate faculty approved modifications, will be utilized in the selection of VMED students. The graduate program has the responsibility for the formal notification of admission decisions.

1) D.V.M. or equivalent foreign veterinary degree is preferred. Students with a B.A., B.S., or M.S. degree in non-veterinary programs will be reviewed for admission on an individual basis by the PAC.
2) A minimum preferred performance level of a 3.25 undergraduate GPA or equivalent (on a 4 point scale).
4) Statement of applicant’s experience and goals indicating research interests, career goals, and previous research experience. This will help the PAC evaluate strengths and weaknesses of applicants, ensure that the program is appropriate for their career goals, and provide students the opportunity to promote themselves.
5) Three letters of reference from individuals knowledgeable of the applicant’s academic and research performance.
6) TOEFL score preferred performance level obtained within the previous two years; total score minimum of 79, writing section score minimum of 21, and reading section score minimum of 19.
7) Curriculum Vitae.

Applicants whose credentials are borderline may be offered admission on a conditional basis. The VMED PAC will outline the specific conditions that need to be met and a timeframe for meeting those conditions. If the specified conditions are not satisfied before the expiration of the timeframe, the admission is revoke
D.2 Timetable for the Application and Admissions Process
To enable the administration of an efficient, cohesive, competitive, and successful graduate program, a single admission for fall semester is recommended for all students. The approximate timetable for the entire process of application and admissions is as follows:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Application deadline</td>
<td>December 1</td>
</tr>
<tr>
<td>Decision letter</td>
<td>March 1</td>
</tr>
<tr>
<td>Commitment by student</td>
<td>April 12</td>
</tr>
<tr>
<td>Students enter program</td>
<td>Fall Semester</td>
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There will be flexibility on the application deadline to allow for applications of D.V.M. residents desiring admission to a graduate degree program. There are a variety of mechanisms by which prospective students may join the University Community throughout the year and enter the Graduate Program in the fall.

Offers of admission to the VMED graduate program will not be extended unless the VMED program has offered a first year fellowship or a faculty adviser has accepted responsibility (both advising and financial) for the student in writing.

D.3 Assignment of an Adviser
Once students are determined to be eligible for admission an adviser needs to be identified. Some students apply with an adviser already identified. Other applicants need to have an adviser identified by the PAC. In all cases an adviser must be identified, accept mentoring and financial support responsibilities for the student before an offer of admission can be extended. Advisers assume mentoring and administrative responsibility for an individual student’s program of study. The adviser makes final decisions regarding degree program content and student progress following consultation with the student and the PAC.

D.4 Financial Support for Students
Students are first determined to be eligible for admission. For those eligible for admission, an adviser with an opening and financial support must be identified before the student is offered admission. Advisers are responsible for the financial support of their graduate students. The OGP must receive confirmation from the adviser’s Chair that sufficient funding exists for the student.

The minimum stipend for students is adjusted annually to meet the NIH recommendations or Graduate School fellowships, whichever is higher, plus fringe benefits as determined by the university. Candidates who have passed their oral prelims may receive $1,000 additional stipend support. Note that all students must be registered in both the Spring and Fall semesters in order to maintain active status.

D.5 Transfer of Credits
The University policy on Application of Graduate Credits to Degree Requirements (http://www.policy.umn.edu/Policies/Education/Education/GRADCREDITDEGREE.html) should be consulted for questions regarding transfer of credits. Credits to be transferred must be graduate level. Students request the transfer of course credits by including the courses on their GPAS (graduate planning and audit system). In all cases, official transcripts of the graded work must be included in the student's graduate admission office application file. A limited number of credits of graduate level coursework taken as a non-degree seeking or non-admitted student may be considered for transfer. Transfer of graduate credit is not allowed for courses completed through independent (correspondence) study, completed through extension or special categories at other institutions, or taken before the awarding of a baccalaureate degree. Transfer of thesis credits is not allowed.

D.6 Professional Development
All students need to engage in activities that enrich their graduate experience and help them identify and prepare for their post-graduate career. A personalized individual plan will assist the student and advisor in identifying appropriate activities. Activities that qualify include (but are not limited to), mentored teaching, professional externships, and outreach activities designed to advance the career goals as identified in the students’ Individual Development Plan (IDP).
Students are required to develop an IDP and to complete meaningful professional development activities prior to graduating from the VMED graduate program. IDPs provide a planning process that identifies professional development needs in the context of career objectives.

There are several resources for completing the IDP, the program recommends the online AAAS version (https://myidp.sciencecareers.org). Each student is expected to complete an IDP, discuss goals with their advisor and committee during regular and mandated meetings, and update it regularly as goals are achieved and new ones added. Completion of this process is to be reported each year in conjunction with the Annual Progress Report.

D.7 Professional Conduct and Science Ethics

Students in the VMED program are expected to conduct themselves in a professional manner at all times, including personal interactions outside of University structures and events. A respectful workplace is to be maintained at all times. Incoming students are required to attend a Respectful Workplace discussion held at regular intervals within the College of Veterinary Medicine. It is also of utmost importance that the highest quality of academic integrity be maintained. All research and learning is to be conducted in agreement with current ethical standards, particularly when the research involves the use of human and/or animal subjects. Students found in violation of these codes of conduct will be brought before the PAC and/or University Review Panels, with possible dismissal from the program. Students have the right to file grievances against VMED program students, faculty, and staff (http://www.policy.umn.edu/Policies/Education/Student/STUDENTCOMPLAINTSPROC01.html) and the execution of this right shall not impede the academic progress of the student.

The Graduate School describes the mutual rights and responsibilities for graduate students and their mentors, and these are used as the model for student and mentor conduct by the VMED program. Standards of Student Conduct Enforceable by University Agencies and the actions defined as disciplinary offenses actionable by the University can be found at http://www1.umn.edu/oscai. Expectations for behavior concerning Graduate Students in Research, Scholarship, and Professional Education are described at https://research.umn.edu/ethics-compliance/overview. Information regarding approval of animal use protocols is available at http://www1.umn.edu/iacuc. Work-related policies are described at http://www1.umn.edu/ohr/gae or through the College of Veterinary Medicine Office of Human Resources, 416 VMC.
E. MASTER’S DEGREE PROGRAM

The master’s degree (M.S.) is awarded in recognition of academic accomplishment as demonstrated by a coherent program of coursework, preparation of a thesis (Plan A), and passing of the final examination. The M.S. degree ordinarily requires from 2 to 3 years in residence and cannot be completed in less than one year. All requirements for the master’s degree must be completed and the degree awarded within five calendar years of initial enrollment in the graduate program.

E.1 Degree Requirements

Formal coursework for the M.S. degree varies according to the field of study, interests, and career goals of the individual graduate student. Courses may be taken in disciplines other than Veterinary Medicine. Students wishing to enroll in a 4000 level course need to consult with their adviser and the DGS prior to registration if the student wants to use the course in their degree program. Such courses may be appropriate to supplement any deficiencies in the student’s academic background.

- A maximum of six 4000-level course credits may be used to satisfy the master’s course requirement, with approval.
- At least 60% of the coursework on the official graduate degree plan must be completed as a registered University of Minnesota graduate student.
- A maximum of eight graduate course credits may be counted in common between two University master’s degree programs.
- Approved transfer coursework may make up the remaining 40% of degree credits and can include a maximum of 12 graduate credits taken as a non-degree seeking or non-admitted student.
- Transfer of thesis credits is not allowed.
- As per graduate education requirements, at least 2/3 of course credits must be taken with grades A-F.
- Based on individual student needs, exceptions to requirements can be petitioned to the PAC.

Plan A M.S. requirements:

- **Course credits:** 20 credits minimum to be taken in VMED, CMB or a related field
- **Thesis Credits:** 10 credits (VMED 8777)
- **Total Credits:** 30 credits minimum

**Required courses:**
- VMED5190 Seminar and Presentation Development for Graduate Students
- VMED5910 Grant Writing: What Makes a Winning Proposal?
- VMED 8134 Ethical Conduct of Animal Research
- VMED 8550 Veterinary Medicine Seminar (2 credits)
- At least one additional 8000 level course in major field (suggest CMB8202)
- At least one course in statistics or biostatistics (though two courses are recommended)

**Recommended courses to fulfill biostatistics requirement:**
- PUBH 6414 Biostatistical Literacy 3 cr
- PUBH 6450 Biostatistics I 4 cr
- PUBH 6451 Biostatistics II 4 cr
- Stat 5021 Statistical Analysis 4 cr
- Stat 5031 Statistical Methods for Quality Improvement 4 cr
- Stat 5302 Applied Regression Analysis 4 cr
- Stat 5303 Designing Experiments 4 cr
- Stat 5421 Analysis of Categorical Data 3 cr

Statistics courses other than those recommended can be used to fulfill this requirement with the approval of the student’s adviser, thesis committee, and the PAC.
E.2 Selection of an Adviser
Only University faculty, including adjunct faculty, may serve as advisers. The adviser must be appointed at the SM or M2 level and hold an earned doctorate or equivalent degree from an accredited institution. The Associate Dean for Graduate Programs, on recommendation by the PAC, must approve all assignments as adviser. Individuals working toward a graduate degree at the University may not serve as adviser. Please refer to University policy on Graduate Examining Committees at http://www.policy.umn.edu/Policies/Education/Education/APPOINTGRADCMM.html. Financial support is the responsibility of the adviser and the student and will not be provided by the VMED graduate program.

E.3 Credits Required Each Term
Students with an assistantship need to register for 6-14 credits. The minimum of 6 credits is considered full time. **Anything less than 6 credits is part time.** Assistantships allow for the registration of up to 14 credits. Registration for more than 14 credits includes an additional charge which is the responsibility of the student and/or adviser. Students who have completed all coursework and thesis credits may register for VMED 8333, which is a 1 credit full-time equivalent course.

E.4 Graduate Planning and Audit System
By the beginning of the second semester of the first year, students must have submitted their official program plan using GPAS (Graduate Planning and Audit System). This online form lists all completed and planned coursework, and transfer credits. The GPAS is submitted online and the Graduate Program Coordinator takes it to the PAC for approval. It is then submitted to GSSP.

E.5 Designated Minor
Most VMED students do not declare an official minor. If a student does decide to formally declare a minor, the student will need to contact the graduate program of the minor he/she wishes to declare to find out what the requirements are for a minor in that program. The minor is then filed at https://www.grad.umn.edu/current-students-forms/graduate-minor-request. The approval and signature of the minor program DGS must be obtained before the GPAS is submitted for approval.

E.6 VMC and VDL Resident Graduate Degree Plans
There is a significant overlap between the emphasis areas in residency training and the graduate program resulting in the development of graduate courses focusing on disease pathophysiology, diagnosis and treatment that were designed to assist students in the mastery of clinical specialty. While in many cases these courses cover topics that are directly related or are tangential to the students’ research areas, it appears that the main emphasis of these courses is in specialty and diagnostic medicine.

In an effort to ensure that students enrolled in the VMED graduate program receive appropriate scientific training in alignment with the mission and objectives of the graduate program (see mission statement) the Program Advisory Committee established the following credit requirements.

1. M.S. students may have a maximum of 30% of the required course credits on their graduate degree plan coming from 5000 or 8000 level courses designated as board-preparatory or seminar courses or Veterinary Public Health (see list below). This equates to 6 of the 20 required credit hours.
2. In some circumstances a 6000 level statistical course may be considered equivalent to an 8000 level course. Equivalency of these 6000 level courses must be approved by the PAC.

5000 level board-prep courses
VMED5210 Advanced Large Animal Physiology I
VMED5211 Advanced Large Animal Physiology II
VMED5232 Comparative Clinical Veterinary Dermatologic Pathology
VMED5240 Advanced Small Animal Pathobiology I
VMED5241 Advanced Small Animal Pathobiology II
VMED5242 Advanced Small Animal Pathobiology III
VMED5243 Advanced Small Animal Pathobiology IV
VMED5310 Topics in Veterinary Clinical Pathology
VMED5319 Veterinary Gross Pathology
VMED5330 Veterinary Descriptive Histopathology
VMED5621 Principles of Veterinary Anesthesiology
VMED5670 Bovine Surgery Practicum

5000 level seminar courses
VMED5295 Problems in Large Animal Clinical Medicine/Surgery and Theriogenology

5000 level Veterinary Public Health courses
PVSS5991 Animal Health and Food System Policy and US State Government
PVSS5992 Animal Health and Food System Policy and US National Government
PVSS5993 Animal Health and Food System Policy and Intergovernmental Organizations
PVSS5995 Engaging Intergovernmental Organizations
PVSS5996 Professional Communications: Policy Issues Briefs
PVSS5997 Farm to Table Study Program
PVSS5999 Professional Communications: Agendas, Minutes, Newsletters

8000 level seminar courses**
VMED8210 Seminar: Veterinary Medicine
VMED8230 Medical Conference
VMED8492 Seminar: Infectious Diseases and Swine Medicine
VMED8693 Seminar: Large Animal Surgery
VMED8781 Seminar: Advanced Veterinary Anesthesiology
VMED8793 Seminar: Veterinary Anesthesiology

**8550 Veterinary Medicine Seminar - This course is required and it is not included in the limits set above.

8000 level board prep courses
VMED8220 Advanced Nephrology/Urology Clinics
VMED8292 Journal Club: Large Animal Internal Medicine
VMED8682 Advanced Large Animal Surgery
VMED8780 Advanced Avian Critical Care: Principles and Procedures
VMED8796 Avian Anesthesia and Orthopedic Surgery

E.7 Selection of the M.S. Thesis Committee
By the beginning of the second semester of the first year the student and adviser will select the thesis committee to assist in evaluating the research activity. The committee shall consist of the adviser and at least one faculty member from the VMED graduate program and at least one faculty member from outside of the VMED program.

Experts outside of the University may serve on examining committees with appropriate review and approval by the PAC. The student should request a current CV from the individual and the student must submit that along with a paragraph outlining why the individual is appropriate to sit on their examining committee.

Individuals working toward a graduate degree at the University may not serve as committee members in any capacity. Please refer to University policy on Graduate Examining Committees at http://www.policy.umn.edu/Policies/Education/Education/APPOINTGRADCOMM.html.

Individuals who do not meet the policy’s eligibility criteria may receive collegiate approval by having a CV and paragraph outlining the rationale for their committee involvement, reviewed and approved by the PAC.

In order to approve the student’s committee, a form must be completed identifying the desired committee members. This form is available from the graduate programs coordinator (GPC). It is completed by the student with the adviser’s input and returned to the GPC who takes it to the PAC for approval. Once approved by the PAC the student submits their request online at https://www.grad.umn.edu/current-students-graduate-student-services-progress-masters/assignmasterscommittee for entry into the student’s official record.
If it becomes necessary to replace a thesis committee member, the DGS and Associate Dean must approve all replacements. The student’s adviser should send an e-mail to the graduate program coordinator requesting the replacement approval. The adviser will also notify the committee member being removed with the reasons for the requested change. The Associate Dean will mediate a solution in cases where there are disagreements with removing a committee member.

E.8 M.S. Committee Meetings

The first thesis committee meeting should take place during the second semester of the first year in the M.S. program and it is required that the committee be convened every six months through the duration of the program. The graduate student, in consultation with his/her adviser, is responsible for convening committee meetings. Students should supply each committee member with a progress report and a plan for the following semester. These committee meetings should be viewed as an opportunity for the student and adviser to obtain valuable input concerning the direction of the research project. Students are encouraged to meet with their committee more frequently as the need arises. Students not making sufficient progress towards their degree requirements (as determined by coursework and research milestones established by their thesis committee) will have one semester to meet the stipulations (imposed by their thesis committee and approved by the PAC) for continuance in the program.

Thesis committee instructions: The purpose of the Thesis Committee is to help the candidate achieve full scientific potential, improve the quality of research and enrich the scientific training. The committee meetings aim to:

- Ensure that the project is scientifically valid and suitable for a M.S. project.
- Determine the student’s familiarity with relevant literature.
- Evaluate the progress and future plans of the M.S. project.
- For hospital residents, ensure integrity of both specialty and graduate training.
- Oversee the timely graduation of the student.

The Committee must convene in full. Committee members may participate via video conference formats, if necessary.

Meetings and reporting: The first meeting should convene prior to the end of second semester for M.S. students. A thesis committee meeting is required every six months but may be held more often if desired. The following is a recommended structure:

- **Meeting 1:** Form a personal study plan with the student; discuss objectives of the thesis project.
- **Meeting 2:** Following-up on the personal study plan (M.S. committees).
- **Meetings 3-5:** Follow up on the personal study plan, thorough check of research results, etc.
- **Final Meeting:** Accepting the project, formally grant permission to write the thesis.

Conducting Regular Thesis Committee Meetings: For each meeting the student is to prepare a report for the thesis committee summarizing coursework and scientific research progress. During the meeting, which should not exceed 2 hours, the student and committee will discuss:

- Coursework progress, quality, how it meets the student’s needs, and plans for additional learning and professional development
- Specific aims of the research and the current status of the project, including technical difficulties and unsuccessful experiments,
- Progress on work accomplished since the last committee meeting,
- Future short-term and long-term plans of the thesis project,
- The project’s experimental strengths and weaknesses, and
- Expectations and deadlines for obtaining significant results.

At the end of the meeting, the following actions will be taken:

- Committee members will make a majority recommendation regarding continuation of the student’s program.
- The student is informed of any concerns or pending milestones.
- The committee chair completes the Thesis Committee Meeting Summary Report form and submits it online.
- OGP receives the form and sends copies to the student, adviser and committee members.
E.9 Professional Development
All students need to engage in activities that enrich their graduate experience and help them identify and prepare for their post-graduate career. A personalized individual plan will assist the student and advisor in identifying appropriate activities. Activities that qualify include (but are not limited to), mentored teaching, professional externships, and outreach activities designed to advance the career goals as identified in the students’ Individual Development Plan (IDP).

Individual Development Plan
Students are required to develop an IDP and to complete meaningful professional development activities prior to graduating from the VMED graduate program. IDPs provide a planning process that identifies professional development needs in the context of career objectives.

There are several resources for completing the IDP, the program recommends the online AAAS version (https://myidp.sciencecareers.org). Each student is expected to complete an IDP, discuss goals with their advisor and committee during regular and mandated meetings, and update it regularly as goals are achieved and new ones added. Completion of this process is to be reported each year in conjunction with the Annual Progress Report.

E.10 Annual Student Review
Students will be evaluated by the PAC every year to assess their progress towards their degree requirements. The performance in the lab, courses, and VMED seminars, as determined by advisers and faculty, must be satisfactory. If it is determined that a student is not making adequate progress, the student will be required to petition the PAC to provide reasons for the delay in progress and to provide a timeline for addressing the issue. If the PAC does not deem this petition to be reasonable, the student will be required to meet with the PAC and a timeline will be determined at that meeting. Failure by the student to adhere to the timeline will result in a request by the PAC that the student be dismissed from the graduate program.

E.11 Minimum Grade Requirements
Students are required to have a minimum grade point average of 3.0 (on a 4.0 scale) for all courses on their U of M graduate transcript and on the official graduate degree plan. Courses with grades of A, B, C (including C-) and S may be included, but grades of S are not calculated in the GPA. At least 2/3 of all course credits on the graduate degree plan must be graded A-F. **Students who are not making satisfactory progress will not be re-appointed for a second year.**

E.12 Summer Registration
Students do not register during summer session unless required to do so by a funding agency or government, or need to accrue thesis credits in order to graduate by the end of fall semester. Students need to consult with their adviser and obtain permission through the Graduate Programs Office prior to registering. If approved, a request for graduate assistant tuition benefits form must be completed and submitted prior to registration.

E.13 GRAD999 Registration
Students need to maintain active enrollment each fall and spring semester and at the time their final manuscript is submitted. There may be a situation when students need to have an active enrollment, but do not need to have full-time status. These situations are the exception, but it is possible that the student may be eligible to register for GRAD999, a non-tuition and non-credit bearing course. **Note that GRAD999 registration does not provide full-time student status.** Please check with the graduate program office before registering for GRAD999.

If it is determined that the student is eligible to register for GRAD999, they may do so for one semester only. After which, if the student needs to register for an additional semester, they must petition the PAC for permission prior to the start of the term. The petition will need to outline the student’s academic progress over the previous term and the progress intended to be made over the coming term. The petition must be accompanied by signatures of the student’s adviser and examining committee members.
E.14 Request extension to time limit for degree
Those students who experience extraordinary circumstances which prevent M.S. degree completion within the established time limits may request a one time extension of up to 12 months. The student needs to discuss this option with their adviser to determine if it is a viable solution. If the student decides to request an extension they must complete the form Master’s Degree: Request for Extension to the Maximum Time Limit (UM1779) [http://www.policy.umn.edu/prod/groups/president/@pub/@forms/@grad/documents/form/um1779.pdf].

The extension request form is submitted to the CVM Office of Graduate Programs after being signed by the adviser, at least 6 months prior to the 5 year time limit. The extension request must include a letter from the adviser recommending the time extension and identifying a new completion date. The request is then taken to the PAC. If approved the PAC will establish a new completion date and the DGS will sign the form. If the request is denied the student will be terminated from the program if they do not complete within the standard 5 year time limit. The student will be informed of the PAC’s decision in writing.

E.15 Graduation Packet
Download a graduation packet from GSSP the term before you plan to defend your thesis. The graduation packet is online at [http://www.grad.umn.edu/students/masters/index.html]. This packet will include several forms including the Master’s Reviewers Report Form, the Graduate School Application for Degree, and the Master’s Final Examination Report form. The Graduate School Application for Degree must be submitted to GSSP prior to the first day of the month in which you plan to defend. The Master’s Reviewers Report form and the Master’s Final Examination Report form are submitted to GSSP after your defense is completed.

E.16 M.S. Thesis
The thesis should be an independent research project. It should be well written and presented in such a form that the major research results are suitable for submission to a recognized, refereed journal. It should be suitable for publication, with the student as primary author. The suitability will be determined by the student’s examining committee. It is expected that the thesis contains a literature review and at least two research chapters. The VMED program allows only single author theses.

Students nearing completion of their thesis research should discuss the timeframe for completing their program with their thesis committee at their semi-annual committee meeting. If the thesis committee agrees that the student has enough data to form a defensible thesis, the student then begins writing the thesis. Students should refer to the Thesis Formatting and Submission which can be found on the Graduate School website at [http://www.grad.umn.edu/students/ThesisSubmission/index.html].

After the thesis is completed and the adviser is satisfied with the draft, the student submits a copy to the thesis reviewers and other members of the examining committee. The committee members must be given a minimum of three weeks to confer with the candidate on the content of the thesis. Any major revisions must be completed prior to the final defense. Minor revisions can be made after the defense but before the final manuscript is submitted. All thesis committee members must agree that the thesis is suitable for defense by signing the Master’s Reviewers Report Form. The Master’s Reviewers Report Form is available to the student by downloading a Graduation Packet from the Graduate School website at [http://www.grad.umn.edu/students/masters/index.html].

E.17 The Final Oral Examination
Announcements to the VMED students and faculty need to be sent out a minimum of two weeks prior to the exam. The student should contact the Graduate Program Coordinator (GPC) with the date, time, location of the thesis presentation as well as the title of the thesis and the adviser’s name. The GPC will send out an announcement for the final oral presentation to the VMED students and graduate faculty. The candidate will then present his/her thesis in a public seminar with the examining committee present. The seminar constitutes the final oral exam, and is followed by a short meeting with the examining committee, who must sign the Master’s Final Examination Report Form indicating the results of the final oral exam. All faculty and students are encouraged to attend the final oral exam seminar.
E.18 Thesis Submission
The thesis is required to be submitted online. Students should follow the format outlined in the Graduate School’s Thesis Formatting and Submission instructions found at (http://www.grad.umn.edu/students/ThesisSubmission/index.html). The University will not award the official degree until the thesis has been submitted. Most students will need at least two bound copies of the thesis, (which is the responsibility of the student).
- one for the adviser
- one for the Office of Graduate Programs
- one for each committee member (optional)

E.19 Exit Interview
Upon completing the M.S. degree, the Graduate Program Coordinator will solicit a written evaluation of the student’s experience in the VMED graduate program. The student will be offered an opportunity to meet individually with the GPC or to submit the written evaluation electronically. These evaluations will be used to assess the quality of the M.S. program and faculty, and to provide guidance for improving graduate education.

E.20 Leave of Absence
A leave of absence (LOA) from the graduate program may be possible under limited circumstances. If a LOA is approved the student must not have contact with their graduate program, adviser, research, etc. A LOA is a total respite from all forms of graduate education, courses, lab work, contact with professors and staff. Students must apply for a LOA and have it approved by the DGS and OGP, before it goes into effect. LOAs are for full semesters and cannot be approved for less than one semester or more than four semesters. More information is available at http://www.policy.umn.edu/Policies/Education/Education/GRADSTUDENTLEAVE.html

Circumstances that may warrant a request for a LOA include serious illness, death of a close family member, birth or adoption of a child and for voluntary military service. Other circumstances may cause a request to be initiated but there is never a guarantee that a LOA will be approved.

When considering a Leave of Absence:
- review Administrative Policy: Leave of Absence and Reinstatement from a Leave: Graduate Students (Twin Cities, Duluth, Rochester);
- read instructions on the Leave of Absence form
- confer with your adviser(s), DGS, graduate programs coordinator (GPC), and relevant offices (e.g., ISSS, Graduate Assistant Employment, Financial Aid) regarding the impact of a LOA on your financial, academic, work-related, and personal circumstances
- confer with your DGS and CVM Office of Graduate Programs about what, if any, conditions may be placed on your reinstatement after the LOA.

If, after review and consultation, you choose to request a LOA:
- complete the form (include supporting documentation, if requested) immediately
- obtain signatures of your adviser(s) and DGS
- submit the signed form to the CVM Office of Graduate Programs for review

DGS in consultation with GPC and ADGP will review request and make decision. The Graduate Programs Coordinator will notify student in writing of decision and time limit of approved leave, including any conditions that are placed on reinstatement.

Reinstatement after Leave of Absence:
A reinstatement request is required at least one month prior to the beginning of the term in which the student wishes to return. Submit the LOA Reinstatement Request form with adviser signature(s) to the Graduate Programs Coordinator (GPC). The GPC will notify the student in writing of decision and any reinstatement conditions after consultation with DGS and ADGP. The graduate program reserves the right to request documentation that the student has acceptably addressed the reasons that necessitated the LOA prior to granting reinstatement. Students may submit a request to return from LOA earlier then the term approved. However, any requests submitted after the term approved, will be denied and will require a formal re-admission application to the graduate program.
E.21 Recommended Timeline for M.S. Students
The following timeline is recommended for all M.S. students in the VMED program. Participation as described will ensure that each student will complete all of the requirements of the program and progress through the program in an efficient and timely manner.

YEAR 1
Begin coursework
Required courses are:

VMED5190 Seminar and Presentation Development for Graduate Students
VMED5910 Grant Writing: What Makes a Winning Proposal?
VMED 8134 Ethical Conduct of Animal Research
VMED 8550 Veterinary Medicine Seminar (2 credits)
At least one course in Biostatistics (though two courses are recommended)
At least one additional 8000 level course in major field (suggest CMB8202)
Submit GPAS (Graduate Planning and Audit System) for approval beginning of second semester
Select thesis committee members and submit for approval beginning of second semester
Complete first committee meeting during year one and submit Thesis committee meeting summary form
Begin Individualized Development Plan (IDP)

YEAR 2
Complete remaining coursework
Update IDP
Schedule two committee meetings to discuss thesis proposal, approximately once every 6 months and Submit Thesis committee meeting summary form
Complete research project and write thesis

SUMMER YEAR 2 or YEAR 3
Update IDP
Download graduation packet
Submit draft of thesis to adviser for approval
Submit thesis to committee members (provide at least three weeks for review)
Submit Graduate School Application for Degree to GSSP (part of graduation packet)
Provide Graduate Programs Coordinator with date, time, and location of thesis defense (at least two weeks prior to defense)
Get committee signatures on Master’s Reviewers Report form
Complete final defense and submit Master’s Final Examination Report form and Master’s Reviewers Report form to GSSP
Submit thesis online and required documentation to GSSP
Exit interview with Graduate Programs Coordinator
The Doctor of Philosophy degree is granted not on the basis of successful completion of a definite amount of prescribed work, but chiefly as a result of recognition of the candidate’s research attainments. This is determined by completing the required coursework, passing the required written and oral preliminary examinations covering the candidate’s thesis proposal, and successful completion of a thesis. It is expected that the completed thesis will contain data sufficient for at least two publications in refereed journals. All requirements of the Ph.D. program must be completed within eight calendar years of the initial term of enrollment in the graduate program.

F.1 Degree Requirements

Formal coursework for the Ph.D. degree varies according to the field of study, interests, and career goals of the individual graduate student. Courses may be taken in disciplines other than VMED. Students wishing to enroll in a 4000 level course need to consult with their adviser and the DGS prior to registration if the student wants to use the course in their degree program. Such courses may be appropriate to supplement any deficiencies in the student’s academic background.

- A maximum of six 4000-level course credits may be used to satisfy the doctoral course requirements.
- At least 60% of the coursework on the official graduate degree plan must be completed as a registered University of Minnesota graduate student. Approved transfer coursework may make up the remaining 40% of degree credits and may include a maximum of 12 graduate credits taken as a non-degree seeking or non-admitted student.
- Transfer of thesis credits is not allowed.
- As per graduate education requirements, at least 2/3 of course credits must be taken with grades A-F.

**Course Credit Requirements:** Students usually take a minimum of 24 course credits in VMED and related fields. If students choose to have an official minor, those required course credits can be a subset of the 24 course credits.

**Thesis credits:** 24 thesis credits are required. Thesis credits may be taken at any time and it is suggested that students add thesis credits each semester until they have the maximum of 14 credits per term. Pre-thesis credits (CMB 8666) may be taken but do not count toward the required course credits, or the 24 thesis credits (CMB 8888) requirement.

**Required courses:**

VMED5190 Seminar and Presentation Development for Graduate Students
VMED5910 Grant Writing: What Makes a Winning Proposal?
VMED 8134 Ethical Conduct of Animal Research
VMED 8550 Veterinary Medicine Seminar (2 credits)
At least three additional 8000 level courses in major field (recommend CMB8202)
At least one course in Biostatistics (though two courses are recommended)

**Recommended courses to fulfill biostatistics requirement:**

- PUBH 6414 Biostatistical Literacy 3 cr
- PUBH 6450 Biostatistics I 4 cr
- PUBH 6451 Biostatistics II 4 cr
- Stat 5021 Statistical Analysis 4 cr
- Stat 5031 Statistical Methods for Quality Improvement 4 cr
- Stat 5302 Applied Regression Analysis 4 cr
- Stat 5303 Designing Experiments 4 cr
- Stat 5421 Analysis of Categorical Data 3 cr

Statistics courses other than those listed can be used to fulfill this requirement with the approval of the student’s adviser, the thesis committee, and the PAC.
Courses for consideration to meet the credit requirements and the three additional 8000 level courses in major field requirement:

- **GCD 8131** Advanced Genetics 3 cr.
- **GCD 8151** Cell Structure & Function 3 cr.
- **GCD 8161** Advanced Developmental Biology 3 cr.
- **MICA 8002** Structure, Function & Genetics of Bacteria & Viruses 4 cr.
- **MICA 8003** Immunity & Immunopathology 4 cr.
- **MICA 8004** Cellular & Cancer Biology 4 cr.
- **VMED 5180** Ecology of Infectious Diseases 3 cr.
- **VMED 5181** Spatial Analysis in Infectious Disease Epidemiology 3 cr.
- **VMED 5420** Molecular Epidemiology of Infectious Disease 3 cr.
- **VMED 5442** Quant. Methods for Analysis of Food An. Disease Data 4 cr.
- **VMED 8192** Dairy Health Management: Critical Thinking 1 cr.
- **VMED 8592** Infectious Disease Journals: Critical Thinking 1 cr.
- **CMB 5200** Introductory Statistical Genetics & Genomics 4 cr.
- **CMB 5381** Pathogenesis of Infectious Zoonotic Diseases 3 cr.
- **CMB 8012** Basic concepts in Skeletal Biology 2 cr.
- **CMB 8208** Neuropsychopharmacology 3 cr.
- **CMB 8344** Mechanisms of Hormone Action 2 cr.
- **CMB 8361** Neuro-Immune Interactions 3 cr.
- **CMB 8371** Mucosal Immunobiology 3 cr.
- **CMB 8481** Advanced Neuropharmaceutics 4 cr.

**F.2 Selection of an Adviser**

Only University faculty, including adjunct faculty, may serve as advisers. The primary adviser must be appointed at the SM level and hold an earned doctorate or equivalent degree from an accredited institution. Faculty at the M2 level may serve as co-adviser only when an adviser at the SM level is also identified. Individuals working toward a graduate degree at the University may not serve as adviser. Emeritus faculty and faculty who have left the university may continue as adviser so long as the faculty, student, and ADGP agree in writing. An active faculty co-adviser will be named. The adviser and student will be responsible for obtaining financial support for the student during completion of the Ph.D. studies.

Students who wish to change advisers during their training must make arrangements with the adviser in due course, and to properly notify the DGS and their current adviser. The DGS and the PAC can assist in cases where a student may need to change advisers, but the graduate program will provide no stipend support in these instances.

**F.3 Credits Required Each Term**

Students with an assistantship need to register for 6-14 credits. The minimum number of 6 credits is considered full time. **Anything less than 6 credits is part time.** Assistantships allow for the registration of up to 14 credits. Registration for more than 14 credits includes an additional charge which is the responsibility of the student and/or adviser. Students who have completed all coursework and thesis credits may register for VMED 8444, which is a 1 credit full-time equivalent course.

**F.4 Graduate Planning and Audit System**

**No later than the end of spring semester** of the first year, students must file their official program using GPAS (Graduate Planning and Audit System). This online tool lists all completed and planned coursework, as well as requested transfer credits. The GPAS is submitted by the student and then the Graduate Program Coordinator takes it to the PAC for approval. It is then submitted to GSSP.

**F.5 Designated Minor**

Most VMED students do not declare an official minor. If a student does decide to formally declare a minor, the student will need to contact the graduate program of the minor he/she wishes to declare to find out what the requirements are for a minor in that program. The minor is then filed at [https://www.grad.umn.edu/current-students-forms/graduate-minor-request](https://www.grad.umn.edu/current-students-forms/graduate-minor-request). The approval and signature of the minor program DGS must be obtained before the GPAS is submitted for approval.
F.6 VMC and VDL Residents in Ph.D. Program

There is a significant overlap between the emphasis areas in residency training and the graduate program resulting in the development of graduate courses focusing on disease pathophysiology, diagnosis and treatment that were designed to assist students in the mastery of clinical specialty. While in many cases these courses cover topics that are directly related or are tangential to the students’ research areas, it appears that the main emphasis of these courses is in specialty and diagnostic medicine.

In an effort to ensure that students enrolled in the VMED graduate program receive appropriate scientific training in alignment with the mission and objectives of the graduate program (see mission statement) the Program Advisory Committee established the following credit requirements:

1. Ph.D. students may have a maximum of 18% of the required course credits on their degree program plan coming from 5000 or 800 level courses designated as board-preparatory or seminar courses or Veterinary Public Health (see list on page 10). This equates to 4 of the 24 required credit hours.
2. Ph.D. students must have a minimum of 25% of the course credits on their degree plan coming from 8000 level courses.*

*In some circumstances 6000 level statistical courses may be used towards this minimum. Substitution of these 6000 level courses must be approved by the PAC.

F.7 Selection of Thesis Committee

Prior to the start of the second year the student and adviser will select the thesis committee to advise the student in further course selection and assist in evaluating the research activity. The committee must consist of at least four graduate faculty members: three members from VMED, including the adviser, and one member who is not a member of the VMED graduate program. Of these four at least one must be tenured, at least one other must be tenured or tenure-track. The other two must be university faculty who hold an earned doctorate or designated equivalent from an accredited institution.

Experts outside of the University may serve on examining committees with appropriate review and approval by the PAC. The student should request a current CV from the individual and the student must submit that along with a paragraph outlining why the individual is appropriate to sit on their examining committee.

Individuals working toward a graduate degree at the University may not serve as committee members in any capacity. Please refer to University policy on Graduate Examining Committees at http://www.policy.umn.edu/Policies/Education/Education/APPOINTGRADCOMM.html.

Individuals who do not meet the policy’s eligibility criteria may receive collegiate approval by submitting a CV and paragraph outlining the rationale for their committee involvement. This is reviewed and approved by the PAC.

The preliminary and final defense examining committees must designate a chair who holds an earned doctorate or designated equivalent in an appropriate field from an accredited institution and meets VMED graduate faculty criteria (see C.1). The chair cannot be the adviser or co-adviser.

In order to approve the student’s committee a form must be completed identifying the desired committee members. This form is available from the graduate programs coordinator (GPC). It is completed by the student with the adviser’s input and returned to the GPC who takes it to the PAC for approval. Once approved by the PAC the student submits their request online at https://www.grad.umn.edu/current-students-graduate-student-services-progress-doctoral/assign-prelim-committee for entry into the student’s official record.
F.8 Professional Development
All students need to engage in activities that enrich their graduate experience and help them identify and prepare for their post-graduate career. A personalized individual plan will assist the student and advisor in identifying appropriate activities. Activities that qualify include (but are not limited to), mentored teaching, professional externships, and outreach activities designed to advance the career goals as identified in the students’ Individual Development Plan (IDP).

Individual Development Plan
Students are required to develop an IDP and to complete meaningful professional development activities prior to graduating from the VMED graduate program. IDPs provide a planning process that identifies professional development needs in the context of career objectives.

There are several resources for completing the IDP, the program recommends the online AAAS version (https://myidp.sciencecareers.org). Each student is expected to complete an IDP, discuss goals with their advisor and committee during regular and mandated meetings, and update it regularly as goals are achieved and new ones added. Completion of this process is to be reported each year in conjunction with the Annual Progress Report.

F.9 Annual Student Review
Students will be evaluated by the PAC every year to assess their progress towards their degree requirements. If it is determined that a student is not making adequate progress, he/she will be required to petition the PAC to provide reasons for the delay in progress and to provide a timeline for addressing the issue. If the PAC does not deem this petition to be reasonable, the student will be required to meet with the PAC and a timeline will be determined at that meeting. Failure by the student to adhere to the timeline will result in a request by the PAC that the student be dismissed from the graduate program.

F.10 Minimum Grade Requirements
Students are required to have a minimum grade point average of 3.0 (on a 4.0 scale) for all courses on their U of M graduate transcript and on the official graduate degree plan. Courses with grades of A, B, C (including C-) and S may be included, but grades of S are not calculated in the GPA. At least 2/3 of all course credits on the graduate degree plan must be graded A-F. Students whose GPA falls below 3.0 will be placed on probation and allowed one semester to raise cumulative GPA to the 3.0 minimum. After that time students will be dismissed for lack of satisfactory progress.

Students who are not making satisfactory progress will not be re-appointed for another year.

F.11 Summer Registration
Students are not to register for summer session unless required to do so by a funding agency or government, or need to accrue thesis credits in order to graduate by the end of fall term. Students need to consult their adviser and obtain permission through the Graduate Programs Office prior to registering. If approved, a Request for Graduate Assistant Tuition Benefits form must be completed and submitted prior to registration.

F.12 Second Year in the Ph.D. Program
Beginning in the second year of the Ph.D. program, students will initiate their research program. This may be working on an established project, or the beginning of a new project. During the second year it is expected that the student will generate preliminary data to be used to develop and defend their thesis proposal. In addition, it is expected that the remaining required and elective course credits will be completed during the second year.

F.13 Annual Thesis Committee Meetings
Students are required to meet with their thesis committee at least once each academic year. The first thesis committee meeting should take place during the summer after year one or during fall semester of the second year of the Ph.D. program. The next committee meetings should be the written and oral preliminary exams. The committee then meets at least once per year, including approximately 6 months prior to the Ph.D. defense. These meetings ensure all members are aware of student progress and that there is agreement on the body of work for the Ph.D. At the last committee meeting prior to the final defense all committee members must agree that the student should be ready to defend within the next 6 months. There is a check box at the bottom of the Thesis committee meeting summary form to indicate they are in agreement that the student is ready to write their thesis and plan the defense.
It is the responsibility of the student to convene the thesis committee within the timeframes described above. The adviser and all committee members accept the obligation to be available and participate in committee meetings. Meetings with individual committee members do not meet the committee meeting requirements but are encouraged. Committee meetings are compulsory and a prerequisite for stipend support for the following year. Students who fail to convene committee meetings may be dismissed from the program and the adviser may not be allowed to accept additional graduate students. Students and advisers are encouraged to solicit the DGS or Office of Graduate Programs if scheduling difficulties arise.

**Thesis Committee Instructions:**
The purpose of the thesis committee is to help the candidate achieve full scientific potential, improve the quality of research and enrich the scientific training. In addition to preparing the candidate for the Ph.D. preliminary exams and conducting the exams the committee meetings aim to:

- Ensure that the project is scientifically valid and suitable for a Ph.D. project
- Ensure that coursework supports the Ph.D. project, assures adequate knowledge and expertise in the field, and provides the necessary skills for completion of the research
- Determine the student’s familiarity with relevant literature
- Evaluate the progress and future plans of the Ph.D. project
- For hospital residents, ensure integrity of both specialty and graduate training
- Oversee the timely graduation of the student

The committee must convene as a quorum, defined as the mentor and at least two other committee members. Committee members may participate via video conference formats, if necessary.

**Meetings and reporting:**
The first meeting should convene prior to the end of third semester for Ph.D. students. After the preliminary exams a thesis committee meeting is required annually (Ph.D.) until the thesis defense, but may be held more often if desired. The nature of thesis committee work changes according to the maturation of the Ph.D. student and the progress of the project. The following is a recommended structure:

- **Meeting 1:** Form a personal study plan with the student; discuss objectives of the thesis project
- **Meetings 2-3:** Complete the preliminary examinations
- **Meetings 4-5:** Follow up on the personal study plan, thorough check of research results
- **Final Meeting:** Accept the Ph.D. project, formally grant permission to write the thesis.

**Conducting Regular Thesis Committee Meetings:**
For each meeting the student is to prepare a report for the thesis committee summarizing coursework and scientific research progress. During the meeting, which should not exceed 2 hours, the student and committee will discuss:

- Coursework progress, quality, how it meets the student’s needs, and plans for additional learning and professional development
- Specific aims of the research and the current status of the project, including technical difficulties and unsuccessful experiments,
- Progress on work accomplished since the last committee meeting,
- Future short-term and long-term plans of the dissertation project,
- The project’s experimental strengths and weaknesses, and
- Expectations and deadlines for obtaining significant results.

At the end of each meeting, the following actions will be taken:

- Committee members will make a majority recommendation regarding continuation of the student’s program.
- The student is informed of any concerns or pending milestones.
- The committee chair completes the Thesis Committee Meeting Summary Report and submits it online.
- OGP receives the form and sends copies to the student, adviser and committee members.
F.14 Changes to Examining Committee

To change an examining committee member you must have the approval of your Adviser, the DGS, and the ADGP as appropriate. At the discretion of the DGS or ADGP the committee member being removed is to be solicited for input prior to the decision. If it becomes necessary to replace a thesis committee member, the DGS must approve all replacements. The ADGP will mediate a solution in cases where there are disagreements with removing a committee member. Substitutions for a preliminary or final oral examination that are necessitated by emergency situations must also be approved in advance. In such cases, the adviser should consult with the Office of Graduate Programs (624-7413), the DGS, or the Graduate School Student Services and Progress Office (625-3014) before the start of the examination.

F.15 Preliminary Examinations

The preliminary examination consists of both a written and an oral component. The written preliminary exam must be successfully completed before the end of August, following year 2. The oral preliminary exam must be completed by the end of Fall semester, Year 3, as described below. Only under unique circumstances will students be allowed to delay the preliminary examination. Any delay in taking the preliminary exam needs prior approval by the DGS.

Written Preliminary Exam: Students will write a thesis research proposal to defend before the examining committee. The written thesis proposal should be scientifically based and present novel hypotheses. The written thesis proposal should be a mentored exercise, with feedback from the adviser, even though it is written solely by the student. The USDA grant proposal format is appropriate. It should be written as proposed research, i.e. in future verb tense. The written proposal is to include the following components:

Specific Aims or Objectives (1-Page):
1. Briefly state the problem being addressed and recap major knowns and gaps in knowledge in the area being addressed by the proposal.
2. State a central hypotheses and define specific aims under which this will be studied.
3. Recap any preliminary data that has led you to your hypothesis.

Project Narrative must include all of the following (≤17-Pages):
1. Introduction
   • Include a clear statement of the long-term goal(s) and supporting objectives of the proposed project.
   • Summarize the body of knowledge or past activities that substantiate the need for the proposed project.
   • Describe ongoing or recently completed activities significant to the proposed project including the work of key project personnel.
   • Include preliminary data/information pertinent to the proposed project. All works cited should be referenced
2. Rationale and Significance
   • Concisely present the rationale behind the proposed project;
   • Describe the specific relationship of the project’s objectives to one of the Program Area Priorities. Applications that do not address at least one Program Area Priority will not be reviewed; and
   • The potential long-range improvement in and sustainability of U.S. agriculture and food systems should be shown clearly. These purposes are described under Purpose and Priorities in Part I, B. Any novel ideas or contributions that the proposed project offers should also be discussed in this section.
3. Approach
   • The activities proposed or problems being addressed must be clearly stated and the approaches applied are to be clearly described. Specifically, this section must include:
   • A description of the activities proposed and the sequence in which the activities are to be performed;
   • Methods to be used in carrying out the proposed project, including the feasibility of the methods;
   • Expected outcomes;
   • Means by which results will be analyzed, assessed, or interpreted;
   • How results or products will be used;
   • Pitfalls that may be encountered;
• Limitations to proposed procedures;
• A full explanation of any materials, procedures, situations, or activities related to the project that may be hazardous to personnel, along with an outline or precautions to be exercised to avoid or mitigate the effects of such hazards; and
• A timeline for attainment of objectives and for production of deliverables that includes annual milestones with specific, measurable outcomes.

After completing the thesis proposal and with the adviser’s approval a written copy is provided to each committee member for their review. A committee meeting is then scheduled for the student to present the thesis proposal orally and discuss the proposal with the examining committee members. Committee members must be given at least three weeks to review the proposal prior to the committee meeting. The VMED program’s preliminary written examination form must be signed by all committee members and submitted to the Graduate Programs Coordinator who then submits the online form indicating the written preliminary exam has been successfully completed.

Oral Preliminary Exam: Students must schedule the oral preliminary exam electronically with the Graduate Student Services and Progress Office (GSSP). Details here: http://www.grad.umn.edu/students/forms/doctoral/index.html. You must schedule with the GSSP at least one week prior to your oral prelim.

1). **Oral Presentation to the committee based on the thesis proposal.** This presentation is scheduled immediately prior to the examination. It is focused on the student’s thesis proposal. This will include an introduction to the research project, relevancy of the scientific problem, the hypothesis to be tested, an outline of the proposed studies, including preliminary results obtained, and anticipated results.

2). **Examination by the thesis committee.** The exam is focused on the student's coursework in support of their research area. The exam requires the student to demonstrate satisfactory knowledge in both the major area and specific research topic. The exam will be conducted in accordance with Graduate Education Guidelines.

Upon completion of the preliminary oral examination, students will be advised of their performance in accordance with Graduate Education Guidelines, which will include a vote by their thesis committee.

**Outcome of the committee vote will be; Pass, Pass With Reservations, or Fail**

**Step 1. Determine Pass or Fail:**

- **Pass and Pass With Reservations** count as a Pass. The voting proportions necessary to Pass are:
  - 4 member committee - 3 Pass/1 Fail
  - 5 member committee - 4 Pass/1 Fail
  - 6 member committee - 4 Pass/2 Fail.

**Step 2. For a Pass, determine whether there are reservations:**

The voting proportions necessary to Pass without any reservations are:

- 4 member committee - 3 Pass/1 Pass With Reservations
- 5 member committee - 4 Pass/1 Pass With Reservations
- 6 member committee - 4 Pass/2 Pass With Reservations.

If in Step 1, a fail vote occurs but the student passes, it is recommended that the committee member changes his/her **Fail** vote to a Pass With Reservations vote for which the student may then be required to address particular issues.

- **Pass:** Students who pass the preliminary exam will continue with their graduate studies.
- **Pass with reservations:** Students who pass with reservations will be given a letter outlining the necessary requirements to have the reservations removed. The letter will contain a completion date, as determined by the thesis committee, for the requested stipulations. After successfully addressing the reservations to the satisfaction of the thesis committee the student will continue with their graduate studies.
- **Fail:** Students who fail the preliminary examination may have the opportunity to retake the preliminary examination in accordance with the Doctoral Degree: Performance Standards and Progress policy. If a fail with retake is the outcome committees must allow a minimum of 4 weeks before the retake exam.

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Within 24 hours of completing the preliminary oral exam, the student must submit the signed Preliminary Oral Examination Report form to GSSP. For a Pass With Reservations, the committee is permitted one week to submit the signed Preliminary Oral Examination Report form to GSSP along with a letter detailing the conditions of the reservation. A copy of the letter outlining the reservations should also be submitted to the OGP.

Once a student achieves Ph.D. candidacy (successfully completing preliminary exams) the minimum stipend is $27,000. Students must initiate this increase by communicating directly with the Graduate Program Coordinator. After officially passing their exams students must send an e-mail to the graduate program coordinator in order for the increase in stipend support to be initiated.

F.16 Thesis Credits
PhD students are required to complete 24 doctoral thesis credits (CMB8888). Thesis credits may be taken at any time and it is suggested that students add thesis credits each semester until they have the maximum of 14 credits per term. Pre-thesis credits (CMB 8666) may be taken but do not count toward the required course credits, or the 24 thesis credits (CMB 8888) requirement. Upon completion of all 24 thesis credits students should register for VMED8444 (1 credit but offers full-time status) to decrease tuition costs.

F.17 Teaching Experience
Ph.D. candidates are encouraged to take part in the Preparing Future Faculty (PFF) program. All Ph.D. students are encouraged to assist in teaching. This may be either a didactic form such as a lecture or laboratory demonstration, or assisting in clinical supervision of veterinary students.

The following courses are offered through the Center for Teaching and Learning and are part of the PFF program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GRAD8101</td>
<td>Teaching in Higher Education</td>
<td>3 cr.</td>
</tr>
<tr>
<td>GRAD8200</td>
<td>Practicum for Future Faculty</td>
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</tr>
<tr>
<td>GRAD8200</td>
<td>Teaching and Learning Topics in Higher Ed</td>
<td>1 cr.</td>
</tr>
</tbody>
</table>

For further information go to [http://cei.umn.edu/courses-programs/preparing-future-faculty/future-faculty-courses](http://cei.umn.edu/courses-programs/preparing-future-faculty/future-faculty-courses)

F.18 Final Examining Committee
Students must complete the online Assign/Update Final Oral Examining Committee form which is found at [http://www.grad.umn.edu/students/forms/doctoral/index.html](http://www.grad.umn.edu/students/forms/doctoral/index.html), even if their committee remains the same as the preliminary examination committee.

F.19 GRAD999 Registration
Students need to maintain active enrollment in the graduate program each fall and spring semester and at the time their final manuscript and all other required paperwork is submitted. There may be a situation when students need to have an active enrollment, but do not need to have full-time status. These situations are the exception, but it is possible that the student may be eligible to register for GRAD999, a non-tuition and non-credit bearing course. Note that GRAD999 registration does not provide full-time student status. Please check with the graduate program office before registering for GRAD999.

If it is determined that the student is eligible to register for GRAD999, they may do so for one semester only. After which, if the student needs to register for an additional semester, they must petition the PAC for permission prior to the start of the term. The petition will need to outline the student’s academic progress over the previous term and the progress intended to be made over the coming term. The petition must be accompanied by signatures of the student’s adviser and examining committee members.

F.20 Request extension to time limit for degree
Those students who experience extraordinary circumstances which prevent Ph.D. degree completion within the established time limits may request a one time extension of up 24 months. The student needs to discuss this option with their adviser to determine if it is a viable solution. If the student decides to request an extension they must complete the form Doctoral Degree: Request for Extension to the Maximum Time Limit [http://policy.umn.edu/sites/policy.umn.edu/files/forms/um1777.pdf](http://policy.umn.edu/sites/policy.umn.edu/files/forms/um1777.pdf)
The extension request form is submitted to the CVM Office of Graduate Programs after being signed by the adviser, at least 6 months prior to the 8 year time limit. The extension request must include a letter from the adviser recommending the time extension and identifying a new completion date. The request is then taken to the PAC. If approved the PAC will establish a new completion date and the DGS will sign the form. If the request is denied the student will be terminated from the program if they do not complete within the standard 8 year time limit. The student will be informed of the PAC’s decision in writing.

F.21  Graduation Packet
Download a graduation packet from GSSP the term before you plan to defend your thesis. The graduation packet is online at [http://www.grad.umn.edu/students/doctoral/index.html](http://www.grad.umn.edu/students/doctoral/index.html). This packet will include several forms including the Ph.D. Thesis Reviewers Report Form and the Graduate School Application for Degree. The Ph.D. Thesis Reviewers report form must be completed and returned to the Graduate Student Services and Progress department at least one week prior to the final defense date. The Graduate School Application for Degree must be submitted to GSSP prior to the first day of the month in which you plan to defend.

F.22  Doctoral Thesis
Students nearing completion of their thesis research should discuss the timeframe for completing their program with their thesis committee at their annual committee meeting. The committee chair must indicate on the last section of the Thesis Committee Meeting Summary Report form that the student has approval to begin writing his/her thesis (this should be done at an annual committee meeting). The student then begins writing the thesis. Students should refer to the Dissertation Submission document which is located at [http://www.grad.umn.edu/current-students-graduate-student-services-progress/doctoral](http://www.grad.umn.edu/current-students-graduate-student-services-progress/doctoral) on the Graduate Education website. Single author and not collaborative, shared, or co-authored theses are required.

The body of work should contain original research and yield at least three manuscripts suitable for publication in recognized, refereed scientific journals, with the student as primary author. One of these should be in review or under revision for publication in a peer-reviewed journal. This research should demonstrate that the candidate is trained as an independent research investigator.

After the thesis is completed and the adviser is satisfied with the draft, the student submits a copy to the thesis reviewers and other members of the examining committee. **The committee members must be given a minimum of three weeks to confer with the candidate on the content of the thesis.** Any major revisions must be completed prior to the final defense. Minor revisions can be made after the defense but before the final manuscript is submitted. The appropriate committee members must agree that the thesis is suitable for defense by signing the Ph.D. Thesis Reviewers Report Form. The Ph.D. Thesis Reviewers Report Form is available to the student by downloading a Graduation Packet from the Graduate School website at [http://www.grad.umn.edu/students/doctoral/index.html](http://www.grad.umn.edu/students/doctoral/index.html). The signed Ph.D. Thesis Reviewers Report Form is taken to the GSSP Office and submitted. The Ph.D. Thesis Reviewers Report Form must be submitted, to the GSSP, at least one week prior to the final defense date.

F.23  Final Oral Exam
Only when the thesis committee agrees that sufficient research accomplishments have been achieved by the student, the final oral exam may be scheduled. Committee approval is demonstrated by signature on the Ph.D. Thesis Reviewers Report Form. The student must submit the online Final Oral Defense/Examination Scheduling Form found at [http://www.grad.umn.edu/students/forms/doctoral/index.html](http://www.grad.umn.edu/students/forms/doctoral/index.html) a minimum of one week prior to the final exam.

Announcements to the VMED students and faculty need to be sent out a minimum of two weeks prior to the exam. The student should contact the Graduate Program Coordinator with the date, time, location of the final defense as well as the title of the thesis and the adviser’s name. The program coordinator will send out an announcement for the final oral defense to the VMED students and graduate faculty. The candidate will then present his/her thesis in a public seminar with the examining committee present. The seminar constitutes the final oral exam, and is followed by a short meeting with the examining committee. After this meeting the committee members sign the Final Oral Examination Report Form, (which was sent directly to the committee chair by GSSP). The student then returns this form to GSSP. All faculty and students are encouraged to attend the final oral exam.
F.24 Dissertation Submission
University policy requires students to submit the final completed dissertation electronically. Directions for submitting the dissertation are found in Dissertation Submission which is located at http://www.grad.umn.edu/current-students-graduate-student-services-progress/doctoral. The University will not award the official degree until the dissertation has been received.

Paper copies of the dissertation are required for the following with thesis binding being the responsibility of the student. Most students will need at least two copies of the thesis:
- one for the adviser,
- one for the Office of Graduate Programs, and
- one for each committee member (optional).

F.25 Exit Interview
Upon completing the Ph.D. degree, the Graduate Program Coordinator will solicit a written evaluation of the student’s experience in the VMED graduate program. The student will be offered an opportunity to meet individually with the GPC or to submit the written evaluation electronically. These evaluations will be used to assess the quality of the Ph.D. program and faculty, and to provide guidance for improving graduate education.

F.26 Leave of Absence
A leave of absence (LOA) from the graduate program may be possible under limited circumstances. If a LOA is approved the student must not have contact with their graduate program, adviser, research, etc. A LOA is a total respite from all forms of graduate education, courses, lab work, contact with professors and staff. Students must apply for a LOA and have it approved by the DGS and OGP, before it goes into effect. LOAs are for full semesters and cannot be approved for less than one semester or more than four semesters. More information is available at http://www.policy.umn.edu/Policies/Education/Education/GRADSTUDENTLEAVE.html

Circumstances that may warrant a request for a LOA include serious illness, death of a close family member, birth or adoption of a child and for voluntary military service. Other circumstances may cause a request to be initiated but there is never a guarantee that a LOA will be approved.

When considering a Leave of Absence:
- review Administrative Policy: Leave of Absence and Reinstatement from a Leave: Graduate Students (Twin Cities, Duluth, Rochester);
- read instructions on the Leave of Absence form
- confer with your adviser(s), DGS, graduate programs coordinator (GPC), and relevant offices (e.g., ISSS, Graduate Assistant Employment, Financial Aid) regarding the impact of a LOA on your financial, academic, work-related, and personal circumstances
- confer with your DGS and CVM Office of Graduate Programs about what, if any, conditions may be placed on your reinstatement after the LOA.

If, after review and consultation, you choose to request a LOA:
- complete the form (include supporting documentation, if requested) immediately
- obtain signatures of your adviser(s) and DGS
- submit the signed form to the CVM Office of Graduate Programs for review

DGS in consultation with GPC and ADGP will review request and make decision. GPC will notify student in writing of decision and time limit of approved leave, including any conditions that are placed on reinstatement.

Reinstatement after Leave of Absence.
A reinstatement request is required at least one month prior to the beginning of the term in which the student wishes to return. Submit the LOA Reinstatement Request form with adviser signature(s) to the Graduate Programs Coordinator (GPC). The GPC will notify the student in writing of decision and any reinstatement conditions after consultation with DGS and ADGP. The graduate program reserves the right to request documentation that the student has acceptably addressed the reasons that necessitated the LOA prior to granting reinstatement. Students may submit a request to
return from LOA earlier than the term approved. However, any requests submitted after the term approved, will be
denied and will require a formal re-admission application to the graduate program.

F.27 RECOMMENDED TIMELINE FOR Ph.D. STUDENTS
The following timeline is recommended for all Ph.D. students in the VMED program. Completion of requirements as
described will ensure that each student will progress through the program in an efficient and timely manner.

YEAR 1
Begin coursework:
Required courses are:
  VMED5190 Seminar and Presentation Development for Graduate Students
  VMED5910 Grant Writing: What Makes a Winning Proposal?
  VMED 8134 Ethical Conduct of Animal Research
  VMED 8550 Veterinary Medicine Seminar (2 credits)
  At least one course in Biostatistics
  Three additional 8000 level major or supporting courses (recommend CMB8202)
Submit GPAS (Graduate Planning and Audit System) for approval by end of year 1
Identify thesis committee members and request approval of committee from PAC
Begin Individualized Development Plan (IDP)

YEAR 2
Complete coursework
Schedule first committee meeting during fall semester to discuss thesis proposal
Committee chair submits Thesis committee meeting summary form
Submit thesis proposal to committee for review
Meet with committee to present thesis proposal and get approval (written preliminary exam)
Schedule oral preliminary exam online with GSSP
Complete preliminary oral exam before end of summer
Update IDP

YEAR 3
Submit online the final oral exam committee members
Update IDP
Schedule and complete annual committee meeting and submit Thesis committee meeting summary form

YEAR 4
Complete thesis research, write and defend dissertation
Schedule and complete annual committee meeting and submit Thesis committee meeting summary form
Update IDP
Download graduation packet from Graduate Student Services and Progress
Submit Graduate School Application for Degree to GSSP (part of graduation packet)
Provide draft of thesis to committee (allow at least three weeks for review) and obtain signatures on Ph.D. Thesis
Reviewers report form
Provide graduate program coordinator with thesis title, date, time and location of thesis defense (two weeks prior to
defense)
Complete final oral defense/examination online scheduling form and submit Ph.D. Thesis Reviewers Report form to
GSSP (at least one week prior to defense)
Submit final oral examination report form to GSSP
Electronically submit final thesis manuscript, instructions found here
Complete exit interview with graduate program coordinator
The most significant discoveries in medicine result from collaboration between the basic sciences and clinical medicine. Both industry and training institutions require a population of individuals skilled in both hypothesis-based research and clinical practice to generate new knowledge to address basic health issues in veterinary and human medicine and food safety. To meet the shortfall of research veterinarians, the CVM Graduate Programs have established a dual/combined degree program (D.V.M./Ph.D.). Acceptance into the D.V.M./Ph.D. dual degree program is based on competitive review of D.V.M. applicants who have also completed a separate graduate program application.

G.1 Application to the Graduate Program
Students apply for admission to the Ph.D. program at the same time they are applying to the D.V.M. program. The deadline for completing the Ph.D. application is December 1. Students who apply and are offered a D.V.M. interview for admission will have a Ph.D. admission interview on the same day as their scheduled interview for the D.V.M. program.

To be offered admission to the formal dual degree program students must meet all eligibility requirements for both the D.V.M. and the Ph.D. program.

G.2 Process for Completing the Formal Dual Degree Program
D.V.M./Ph.D. trainees have two options for completing both degrees. In the concurrent training model, students step out of the D.V.M. program in the middle of year three and begin the Ph.D. program. Upon completing the Ph.D. requirements (3-4 years), the student re-enters the D.V.M. program in the spring semester of the third year of the D.V.M. program. In the consecutive training model students will first complete their D.V.M. requirements prior to starting the Ph.D. program in the summer following their fourth year of the D.V.M. curriculum. Students choosing the consecutive option should choose the Interdisciplinary Track and arrange research rotations during their fourth year.

G.3 Research Rotations
Research rotations in at least two different laboratories (each 8 weeks in length) are required of all dual degree students (CMB 8100) before a thesis adviser is selected. For those admitted into the combined D.V.M/Ph.D. program, participation in the CVM Summer Scholars Program (or perhaps other research programs) during the summer sessions after the first and second year of the D.V.M. curriculum is required and will count towards the recommended research rotations if conducted in the laboratories of potential advisers. Any remaining research rotations must be completed upon starting the Ph.D. portion of the degree program. Students cannot register for graduate credit while registered in the D.V.M. curriculum.

For all research projects that count as a rotation, students are required to present a research poster at the CVM Points of Pride Research Day. Alternatively, a short research talk (15-20 min.) can be scheduled in the VMED Graduate Student Seminar Course (VMED8550). Presentations should include the necessary background information to understand the research problem, an overview of the rotation project, results obtained by the student, and a discussion of future directions or implications of the proposed project.

G.4 Student Advising
The ADGP and the DGS are available to provide advice to D.V.M. students considering the D.V.M./Ph.D. combined degree program. For students choosing the consecutive training model, the ADGP will work with the Academic Affairs Office to arrange fourth year rotations that allow the student to begin a research project. The DGS will serve as their temporary adviser following their admission into the Ph.D. program, until their research adviser is determined. Each new student will be assigned a current D.V.M./Ph.D. student to serve as a mentor as well.

G.5 Selection of an adviser
Upon completion of all research rotations, including Summer Scholars experiences students will select a research adviser who will mentor the student’s research program. It is the responsibility of the student to identify a research adviser. This must be a mutually agreed upon arrangement between the student and the adviser. The adviser will be responsible for providing financial support for the student during completion of the Ph.D. studies.
G.6 Financial support

No support is provided to combined degree students during their first two years in the professional curriculum. Support during the graduate training portion of the combined degree program is the responsibility of the adviser. Students are strongly encouraged to compete for external fellowships, particularly those who have completed the D.V.M. prior to beginning the Ph.D. training. Upon completing the Ph.D. requirements (including the final thesis defense), D.V.M./Ph.D. students who have chosen the concurrent training model will receive $10,000 per semester toward their third and fourth year D.V.M. tuition. The VMED graduate program will provide $10,000 the second semester of their third year of D.V.M. training, and the OGP will provide $10,000 over each of the remaining semesters. The student will be responsible for all other fees, costs, or tuition charges over and above this $10,000/semester tuition funding. **Return to the D.V.M. curriculum and the tuition funding will be contingent upon 1) completion of all Ph.D. requirements (including final thesis defense), and 2) good academic standing in the professional degree program.**

Students who complete the D.V.M. prior to beginning the Ph.D. program will receive an augmented graduate stipend ($4,500 greater than the minimum graduate stipend) throughout the course of their Ph.D. training. The VMED graduate program will provide that differential stipend for the first year, and the OGP will provide the stipend differential for the remaining years of the Ph.D. program. Continuation in this program requires the student to remain in good academic standing as determined by GPA and Annual Student Progress reviews.

G.7 Coursework

Graduate courses will provide information, perspectives and emphasis different from that offered in the D.V.M. curriculum. Generally, the D.V.M./Ph.D. students follow the same requirements as the Ph.D. students. Upon enrollment into the graduate program, D.V.M./Ph.D. students are considered to be in the first year of their Ph.D. program with respect to courses, evaluations, and expectations, and should follow the description for first year students. Although the research rotations may have been completed, the D.V.M./Ph.D. students should register for CMB 8100 as recommended in order to receive graduate credit for the completed rotations. D.V.M./Ph.D. students should consult with the Graduate Program Coordinator prior to registering for CMB 8100. Alternatively, students who have earned credit in CMB 5594 or VMED 5594 for their prior Summer Scholars experience will not be required to register for CMB 8100. In all subsequent years, students should follow the description and recommendation provided for the Ph.D. program as the expectations and requirements of D.V.M./Ph.D. students are the same. This includes the preliminary examination, seminar requirements, instruction experience, etc.

G.8 Return to the D.V.M. Curriculum

**It is required that students defend their thesis prior to returning to the professional curriculum.** In rare circumstances, students will be allowed to submit the final thesis manuscript after returning to the D.V.M. program. This requires approval of the ADGP and the DGS. A signed agreement form outlining the student’s timeline for completing the final manuscript must be on file in the graduate program office prior to the student’s return to the D.V.M. curriculum. Failure to submit the timeline and/or completion of the final manuscript as outlined in the agreement will automatically result in the forfeit of any tuition funding. The student will be allowed a maximum of one semester to complete the final manuscript following return to the D.V.M. curriculum. If the student has not successfully submitted the final manuscript by the start of the summer term prior to fourth year they will forfeit the remaining $30,000 of tuition funding associated with the dual degree program.
H. MISCELLANEOUS PROGRAM INFORMATION

H.1 Records Policy
The Graduate Program Coordinator shall maintain a file for all graduate student applicants, incoming students, current students, and students who have left the program or completed their degree requirements. Documents contained in this file include, but are not limited to, the student’s initial application documents (GRE scores, official transcripts, C.V., statement of training goals), preliminary written and oral exam forms, and yearly progress and review forms including letters describing potential stipulations imposed during the preliminary exam or annual review.

Students may have access to the contents of their file for all documents for which the student has not waived viewing rights. The file can be accessed per written request to the DGS. Program faculty and staff have access to the file on a need-to-know basis, as per FERPA regulations.

H.2 Graduate Assistant Employment
Graduate assistants may be assigned or reassigned to any teaching or other duties that are appropriate for the class title as the needs of the department dictate. A complete explanation of Graduate Assistant Policies is provided through the Office of Human Resources at http://www1.umn.edu/ohr/gae. The Graduate Assistant’s website contains much useful information regarding policies, rights, responsibilities, and opportunities for graduate assistants. Students and faculty of the program are encouraged to access the information contained within. The policy governing graduate assistants is available at: http://policy.umn.edu/hr/gradstudentemployment

H.3 Resources and Information for Graduate Students
Council of Graduate Students (COGS). This organization addresses graduate student concerns via formation of various issue-oriented working groups and staff various committees throughout the University in order to represent graduate students’ interests and help graduate students navigate the bureaucracy. COGS also makes available travel awards to support graduate study. The COGS newsletter is available via their website at: http://www.cogs.umn.edu/.

Graduate Students Professional Development. The Graduate School has created a resource page for graduate students continued professional development, including addressing issues of grant writing skills, fellowships, stress management, science ethics, and job-seeking. Their website with relevant links can be found at: http://www.grad.umn.edu/current-students/apd.


Information for International Students. The International Students and Scholars Services (ISSS) serves the University of Minnesota international student population. Their website is http://www.isss.umn.edu/ and provides assistance to departments bringing in international students. This office should be consulted for all visa questions and issues.

H.4 Family and Medical Leave, and Parental Leave
The University of Minnesota provides for leave under the Family and Medical Leave Act for eligible employees, which includes Graduate Research Assistants and Teaching Assistants. The official language of this policy and how it is applied is located at http://policy.umn.edu/hr/fmla.

Graduate assistants may be eligible for up to twelve weeks’ absence during a fiscal year for:

- Parental leave for childbirth and/or care of the newborn
- Family medical leave for care of a close family member (spouse/registered same sex domestic partner/child/parent (with a serious health condition)
- Personal medical leave for a serious health condition that prevents you from performing your duties or job-related responsibilities.

Eligibility requires that you have worked at least 1,250 hours in the 12 months preceding the leave. Be aware that your supervisor can place you on an FMLA leave, if appropriate, without your requesting such a leave.
Female graduate assistants may, upon request, take up to 6 weeks paid leave related to the birth of her child. She may also take up to two weeks paid, and an additional 4 weeks leave unpaid related to the adoption of a child. A male graduate assistant may, upon request, receive two weeks paid and an additional 4 weeks unpaid leave related to the birth or adoption of a child. The Regents Policy on Employee Work Life and Personal Leaves can be found at: http://regents.umn.edu/sites/default/files/policies/Employee_WorkLife.pdf

H.5 Graduate School Commitment to Diversity
The Graduate School embraces the University of Minnesota’s position that promoting and supporting diversity among the student body is central to the academic mission of the University. A diverse student body enriches graduate education by providing a multiplicity of views and perspectives that enhance research, teaching, and the development of new knowledge. A diverse mix of students promotes respect for, and opportunities to learn from, others with the broad range of backgrounds and experiences that constitute modern society. Higher education trains the next generation of leaders of academia and society in general, and such opportunities for leadership should be accessible to all members of society. The Graduate School and its constituent graduate programs are therefore committed to providing equal access to educational opportunities through recruitment, admission, and support programs that promote diversity, foster successful academic experiences, and cultivate the leaders of the next generation.

The mission statement of the Graduate School’s Diversity Office can be found at: https://www.grad.umn.edu/diversity

### I. ACRONYMS

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<th>Acronym</th>
<th>Description</th>
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<tr>
<td>CMB</td>
<td>Comparative and Molecular Biosciences graduate program</td>
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<tr>
<td>VMED</td>
<td>Veterinary Medicine graduate program</td>
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<td>Director of Graduate Studies</td>
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<td>Associate Dean for Graduate Programs</td>
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<td>OGP</td>
<td>Office of Graduate Programs (in the College of Veterinary Medicine)</td>
</tr>
<tr>
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<td>Animal Science Veterinary Medicine Building</td>
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