

APPENDIX IV
TO THE CODE OF THE DEPARTMENT OF BIOMEDICAL SCIENCES

GRADUATE STUDENT DOCUMENT

Revised: 11 July 2018

This document describes policies and guidelines pertaining to graduate students in the Department of Biomedical Sciences and is not intended to supplant information in the *Graduate and Professional Bulletin*. Students are expected to be familiar with policies of the Department and Graduate School that affect their education. This document is organized as follows:

- I. Graduate Degree Programs**
- II. Requirements for the PhD Degree**
- III. Requirements for the MS Degree**
- IV. Combined DVM/PhD Program**

I. GRADUATE DEGREE PROGRAMS

The Department of Biomedical Sciences offers MS and PhD degrees. For a more detailed description of the types of degrees and their requirements, consult the *Graduate and Professional Bulletin*.

Each of the graduate degree programs and the requirements leading to conferring the advanced degree are described in this document. This document refers to the following *Graduate School (GS)* Forms that the student may be responsible for completing during the course of his/her training and with which students are required to become familiar:

- *Program of Study* (GS Form 6)
- *Petition for Change in Committee* (GS Form 9A)
- *Report of Preliminary Examination* (GS Form 16)
- *Report of Final Examination* (GS Form 24)
- *Application for Graduation* (GS Form 25)

A. Responsibilities and Scholastic Standing

Responsibilities of a graduate student to the Department and University include, but are not limited to, those outlined in the *Graduate and Professional Bulletin* under the section on “Student Rights and Responsibilities”.

Good academic standing requires satisfactory progress in the overall graduate program. A student’s individual Graduate Committee shall render judgments as to whether satisfactory progress is being made toward the degree, taking into account all aspects of academic performance and promise, not necessarily coursework alone. For PhD candidates this shall include an evaluation of their progress in their dissertation project. A positive judgment is required to remain in good academic standing. University scholastic standards for graduate students are detailed in the *Graduate and Professional Bulletin*.

Students must maintain a cumulative GPA of 3.0 or better to remain in good academic standing (this cumulative GPA is calculated separately for regular and overall coursework; the student must maintain a

3.0 in each separate category). The student whose cumulative GPA falls below 3.0 will be placed on academic probation by the Graduate School. The student placed on such probation has one semester to regain good academic standing by raising his/her cumulative GPA to 3.0 or will face dismissal from the program. A grade of Unsatisfactory ("U") on thesis, dissertation or independent study courses within the Department may be cause for termination from the program.

B. Evaluation of Graduate Student Progress

Within one month of submitting the GS Form 6 and annually thereafter by November 1, each student shall provide an annual Progress Report to the *Graduate Education Committee (GEC)*. Each student shall fill out the *Progress Report form* provided to them, schedule a meeting with his/her graduate committee and obtain signatures from his/her committee members and advisor indicating that the student is, or is not, making satisfactory progress. A determination by the student's graduate committee that he/she is not making satisfactory progress shall result in the student being placed on departmental probation by his/her graduate committee. A positive judgment is required for the student to remain in good academic standing. For the initial Progress Report submitted within one month of filing the GS Form 6, the individual committee members can sign off on it without a face-to-face committee meeting. However, in subsequent years, the student shall plan on meeting with his/her committee in conjunction with submitting the Progress Report.

The Progress Report shall be submitted to the Graduate Coordinator, who will refer it to the GEC Chair in the instance of "unsatisfactory progress." If the student's graduate committee determines that there is "unsatisfactory progress" and the GEC determines that "satisfactory progress cannot be anticipated," they will advise the Head of the Department of this determination and may recommend immediate dismissal of the student from the Graduate School. The Head may approve this action and must then refer it to the Dean of the Graduate School for final action. If there is a conflicting determination by the *student's graduate committee* and the GEC, the conflict shall be resolved by the Head.

If at any time an advisor wishes to terminate his/her association with the student, the advisor must inform the student and student's committee of this intent, following consultation with the GEC and the Head of the Department about this decision, before the student's affiliation with the advisor's laboratory is terminated.

If an advisor resigns from the Department, a student may request that the Department Head attempt to place the student with another advisor within the Department.

If a graduate student wishes to discontinue his/her association with an advisor, it is the student's responsibility, in consultation with the GEC or the Head of the Department, to secure a commitment from another faculty member to become the advisor. If another advisor is not available and the student does not make adequate progress toward the degree, the student will be dismissed from the departmental graduate program.

C. Academic Dishonesty

All graduate students are held to the highest of ethical academic standards. Any substantiated form of academic dishonesty, including but not limited to cheating, plagiarism, or falsification of data, will be cause for a written recommendation by the GEC for immediate dismissal. Such recommendation will be referred to the Department Head for approval and the Dean of the Graduate School for final action. Our Department adheres to the *Academic Integrity Policy* of the *Colorado State University General Catalog*, the *Student Conduct Code*, and the *Graduate and Professional Bulletin*.

D. Student Appeals

Students may appeal grading decisions by an instructor or allegations of academic dishonesty or research misconduct by using the "Graduate School Appeals Procedure" outlined in the *Graduate and Professional Bulletin* and as set forth in the *CSU Manual* and the *CSU Catalog*. Procedures for appealing decisions concerning unsatisfactory performance on graduate preliminary or final examinations are outlined in the *Bulletin* and also in Section IV.D of this *Code (Student Appeals Committee)*.

E. Work policy for GTAs and GRAs

When a graduate student receives financial support through a Graduate Research Assistantship (GRA) or a Graduate Teaching Assistantship (GTA), the department expects that 50% of his/her effort is as an employee and 50% is as a student. This means that 100% of his/her effort shall be devoted to graduate training and GTA/GRA duties. Students with GTAs or GRAs who are seeking outside employment should obtain approval from the student's graduate committee and the Department Head prior to accepting such a position.

F. Continuous Registration

Consistent with University regulations, all graduate students in residence are required to be continuously enrolled (Fall and Spring semesters) in their degree programs. In addition, students must be registered during the semester in which they officially graduate. Students may fulfill this requirement by registering for any graduate-level course (regular or non-regular) or, if eligible, may select **Continuous Registration** status. Graduate students eligible for continuous registration are:

- MS students who have completed all regular coursework for the approved program of study
- MS and PhD students who have interrupted their studies
- PhD students who have almost completed the dissertation, for whom the completion and defense of the dissertation is the only activity to be undertaken

University policies on **Continuous Registration** are found in the *Graduate Study* section of the *Graduate and Professional Bulletin*.

II. REQUIREMENTS FOR THE PHD DEGREE

Applicants to the PhD graduate program can be nominated by their prospective advisor. Approval for admission to the PhD graduate program is made by the GEC, after receiving input from appropriate faculty members. Admission is dependent upon the following criteria: the applicant should have graduated from an undergraduate or professional degree program with a grade point average (GPA) of 3.0 or better or qualified for Track II admission; have completed the GRE or MCAT; and have completed the TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) exam if the applicant is a foreign student from a country where English is not the official language. The Department of Biomedical Sciences does not offer conditional admission; therefore applicants must achieve minimum scores on the TOEFL (≥ 550 paper-based; ≥ 80 internet-based) or IELTS (6.5) exam. Admission with an undergraduate GPA less than 3.0 is possible by written petition of the Graduate School by the GEC, containing sufficient justification as to why the applicant should be admitted.

Required coursework for the PhD degree is initially determined by the student's advisor. The final program of study is determined by the advisor and the student's graduate committee.

A minimum of 72 credits is required for the PhD degree. Of these, 21 credits must be earned in courses at or above the 500-level. A cumulative GPA of ≥ 3.0 in both regular and overall coursework must be

maintained to remain in good academic standing. Qualified students are admitted to this program with the understanding that they must fulfill all the requirements for a PhD degree.

It is recommended that students formally select an individual graduate committee by the end of the first year; it is required by the end of the third semester. At this time the student shall file a *Program of Study* (GS Form 6) with the Graduate School. The *Program of Study* is a summary of academic planning and provides a formal statement of what is to be done for the degree. Additionally, the GS Form 6 includes the formal identification of the student's graduate advisory committee. Students who enter the department after completion of the *Molecular, Cellular and Integrative Neurosciences* (MCIN) Program must file their GS Form 6 during their first semester as members of the department, which corresponds to their third semester as graduate students.

The student's graduate committee advises and approves of the selection of appropriate coursework, the selection, preparation, and execution of a research project and administers and evaluates advanced degree examinations. The student's graduate committee shall consist of a minimum of four faculty members. The minimum committee shall include the advisor, acting as chairperson, at least two additional members from the Department of Biomedical Sciences, and one member from outside the Department who is selected by the student but is officially appointed by the Dean of the Graduate School, and who represents the Graduate School.

The names of the student's graduate committee members are submitted to the Department Head for approval and then forwarded to the Dean of the Graduate School for formal appointment as part of the GS Form 6. Committee members may be added or removed with the approval of the student, advisor, Department Head, Dean of the Graduate School and the member(s) involved. Such committee changes must be done using a GS Form 9A, *Petition for Change in Committee*. Students are to maintain an association with the laboratory of their advisor until completion of their PhD; no student shall continue in the program without an association with the advisor identified on the GS Form 6, unless the student obtains approval from his/her graduate committee and the Department Head, and has identified a willing advisor.

Students admitted to and progressing through a designated *Program of Research and Scholarly Excellence* (PRSE) such as the Animal Reproduction and Biotechnology Laboratory (ARBL) or Molecular Cellular and Integrative Neurosciences (MCIN) may have additional requirements administered by the PRSE.

The Department requires all PhD candidates to experience a supervised and structured teaching program. The form of this experience will vary depending upon the *Program of Study* and career goals of the individual student. It is recommended that the experience be mentored and include both presenting lectures and assisting in a laboratory course for a minimum of one semester. The student should register for "supervised college teaching" with the appropriate credits, which will be documented on the student's record. The grading of this may be pass/fail. The student and the student's graduate committee shall devise a plan for fulfilling the teaching requirement. If the student has prior formal teaching experience, it is possible to waive the teaching requirement by advisor petition to the GEC, after consultation with and approval by the student's graduate committee.

The **core curriculum** for the Department of Biomedical Sciences PhD program is as follows:

<u>Course</u>	<u>Credits</u>	<u>Course Title</u>
BMS500	4	Mammalian Physiology I and/or
BMS501	4	Mammalian Physiology II
BC563	4	Molecular Genetics and/or
BC565	4	Molecular Regulation of Cell Function
BMS792	4	Programmatic Seminar and/or
BMS/NB796	4	Journal Club
GRAD544	1	Ethical Conduct of Research
BMS784	1	Supervised College Teaching

All doctoral candidates are encouraged to complete coursework in Grantsmanship (BIOM750), STEM Communication (GRAD550), and Statistics (STAT511). Completion of a total of four semester credits in programmatic seminars and/or journal clubs is required for PhD students.

Requests to change the core curriculum will be considered on an individual student basis following a written request to the GEC by the student's advisor, after consultation with and approval by the student's graduate committee. Auditing a course(s) in the core curriculum listed above does not satisfy degree requirements; the course(s) must be taken for a grade.

Advancing to "doctoral candidacy" shall require the passing of a public **Preliminary Examination**. The preliminary exam shall be administered to students who have completed at least their first year of residency in the Department of Biomedical Sciences and plan to seek a PhD degree in the Department. The student's graduate committee shall administer the exam. The specific format of this exam will be at the discretion of the student's graduate committee, but will include both written and oral components. The written component will require the completion of a grant proposal in the style of an NIH F31 proposal (*Predoctoral Individual National Research Service Award*) or similar granting agency that is related to the student's research. The exact format of the grant and topic is at the discretion of the student's graduate committee. The oral component of the preliminary exam shall consist of presenting and orally defending the research proposal that provides the background, specific aims, methods, preliminary results, possible outcomes and tentative interpretations for the proposed study.

The purpose of the preliminary exam is to determine the student's:

- ❖ broad understanding within the biomedical sciences
- ❖ understanding of the selected area of study
- ❖ writing skills
- ❖ problem-solving skills
- ❖ potential to obtain an advanced research degree

Upon successful completion of the Preliminary Exam, the student's graduate committee shall sign the *Report of the Preliminary Examination* (GS Form 16), which must be submitted to the Graduate School within 2 working days following the exam. The preliminary examination must be passed at least two semesters prior to the Final Examination.

Unsatisfactory performance on the preliminary exam could result in the student being shifted to an MS degree (see below) or being dismissed. At the discretion of the student's graduate committee, a student may retake the exam before the end of the next semester.

The PhD candidate is required to conduct an **independent and original research project** with the guidance and encouragement of the student's graduate committee. The candidate must demonstrate intellectual achievement, scholarly ability, and breadth of knowledge. In addition, the student must be the primary participant in the completed research. The research project shall provide the basis for the dissertation, which is presented to the student's graduate committee in a format acceptable to the Graduate School. The dissertation presents the results of sustained research or investigation on an important intellectual problem. The dissertation must represent independent intellectual achievement and must make a meaningful contribution to knowledge. *The student's graduate committee shall meet approximately six months prior to the Final Examination, at which time they will give the student formal permission to schedule his/her dissertation.* It is expected that there be one (or more) publications associated with successful dissertation research. In the event that this does not occur, as a condition for graduation, the Department requires that part of the dissertation include a manuscript suitable for submission to a refereed journal.

The **Final Examination for PhD candidates** is an oral presentation of the dissertation, followed by questions from graduate committee members, other faculty and students. The objective of the Final Examination is to afford the doctoral candidate an opportunity to present his/her dissertation research in public and to defend the approaches used and conclusions reached. The Final Examination is open to the public. The student's graduate committee shall be responsible for the administration and evaluation of the examination. In the event the dissertation or defense is deemed unsatisfactory by a majority of the student's graduate committee, at the committee's discretion the defense may be rescheduled, consistent with rules of the Graduate School. The student is responsible for bringing the *Report of the Final Examination* (GS Form 24) to the examination and then submitting it completed and signed to the Graduate School within 2 working days following the examination.

After passing the Final Examination, the **dissertation** will be prepared in final form conforming to the rules of the Graduate School for its preparation. The student's graduate committee shall examine and approve the dissertation in its final form prior to the submission. Suggestions for the preparation of the dissertation may be found in the "*Thesis and Dissertation Manual*" publication from the Graduate School. The dissertation must be submitted to the Graduate School by the published deadline of the student's graduating term. All PhD students are required to complete an exit survey and schedule an exit interview with the *Graduate Education Coordinator* before being cleared to graduate.

III. REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE

Admission criteria for the MS-A or MS-B Research program are similar to those of the PhD program and the admission shall be contingent upon the availability of a position for a graduate student in the research laboratory of a faculty member who will agree to be the advisor for the student.

A. MS-A

An MS-A degree requires the submission of a *research-based thesis to the student's graduate committee*. The thesis should include a manuscript suitable for publication in a refereed journal. Typically, the thesis is a formal document that addresses an important concern of the discipline, and requires independent work. This work is typically research-based, and therefore the course requirements for an MS-A will be determined by the student, the advisor and the graduate committee, but must include at least 30 credit hours. Completion of BMS500 and/or BMS501 as core course(s), at least two semester credits in programmatic seminars and a course satisfying the Responsible Conduct of Research requirements (GRAD544B) are required for MS-A students. A cumulative GPA of ≥ 3.0 in both regular and overall coursework must be maintained to remain in good academic standing. The student's graduate committee

shall consist of a minimum of three members of the faculty. The minimum committee shall include: the advisor as chairperson, at least one additional member from the Department of Biomedical Sciences, and one member from outside the Department. This member may be selected by the student, but *represents the Graduate School and is officially appointed by the Dean of the Graduate School*. The advisor and the student should determine jointly the selection of the other members of the student's graduate committee. The student's graduate committee assists the student in the selection, preparation and completion of a research project and administers and evaluates the MS degree final examination. Once a plan for fulfillment of the degree program is determined, the student shall file a *Program of Study* (GS Form 6) with the Graduate School, before the end of the third semester of study.

The final examination for an MS-A student will be an oral presentation of the student's research, followed by questions from committee members, other faculty, and students. The final examination will be open to the public. In the event the thesis, paper, or defense is deemed unsatisfactory by a majority of the committee, at the committee's discretion the defense can be rescheduled, consistent with rules of the Graduate School. Upon successful completion of the MS final exam, the student must file a *Report of Final Examination* (GS Form 24) with the Graduate School within two working days. All MS-A students are required to complete an exit survey and schedule an exit interview with the *Graduate Education Coordinator* before being cleared to graduate.

B. MS-B Research

An MS-B Research degree is similar to the MS-A degree, including the requirement for an oral defense but differs in that a thesis is not required. Rather, MS- B Research students are required by the Department to prepare a publication-quality or scholarly manuscript suitable for submission to a refereed journal, and submit it to the student's graduate committee. This paper does not have to meet Graduate School requirements for the format of an MS-A thesis. Completion of BMS500 and/or BMS501 as core course(s), at least two semester credits in programmatic seminars and a course satisfying the *Responsible Conduct of Research requirements* (GRAD544B) are required for MS-B Research students. A cumulative GPA of ≥ 3.0 in both regular and overall coursework must be maintained to remain in good academic standing.

C. MS- B Coursework

1. MS-B Coursework with Choice of Concentration in Anatomical and Physiological Sciences including Neurobiology

The Department of Biomedical Sciences offers a coursework MS-B degree. A coursework MS-B does not require a research-based thesis and emphasizes didactic coursework. An MS-B Coursework requires 32 credits of coursework and a final comprehensive examination (see the *Graduate and Professional Bulletin*).

Admission to the MS-B Coursework program is dependent on the following criteria: the applicant should have graduated from an undergraduate program with a grade point average (GPA) of 3.0 or better or qualified for Track II admission; have completed the GRE, MCAT, or DAT; and have completed the TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) exam if the applicant is a foreign student from a country where English is not the official language. The Department of Biomedical Sciences does not offer conditional admission; therefore applicants must achieve minimum scores on the TOEFL (≥ 550 paper-based; ≥ 80 internet-based) or IELTS (6.5) exam. Admission with an undergraduate GPA less than 3.0 is possible by written petition of the Graduate School, containing sufficient justification as to why the applicant should be admitted.

Applications for the MS-B Coursework graduate program are reviewed by a committee appointed by the GEC. This committee, the *MS-B Coursework Steering Committee*, will also serve as the graduate advisor for all MS-B Coursework students. This committee shall:

- ❖ assess the student's background, interests and goals
- ❖ inform the student of existing Departmental requirements for graduation
- ❖ recommend a tentative plan of study

There are currently three **core curriculum options** for the MS-B Coursework degree: Human Anatomy, Animal Anatomy and Neurobiology concentrations. Students are required to choose one of these three concentrations and to take the courses that are required for that concentration (listed below). The curricula are designed to prepare the students for the comprehensive written examinations in their selected concentration.

Human Anatomy Concentration:

<u>Course</u>	<u>Credits</u>	<u>Course Title</u>
BMS500	4	Mammalian Physiology I
BMS501	4	Mammalian Physiology II
BMS545	5	Human Functional Neuroanatomy
BMS575/619	6	Advanced Human Gross Anatomy
BMS610A	1	Managing a Career in Science

Animal Anatomy Concentration:

<u>Course</u>	<u>Credits</u>	<u>Course Title</u>
BMS500	4	Mammalian Physiology I
BMS501	4	Mammalian Physiology II
BMS545	5	Human Functional Neuroanatomy
BMS531/633	5	Domestic Animal Dissection
BMS610A	1	Managing a Career in Science

Neurobiology Concentration:

<u>Course</u>	<u>Credits</u>	<u>Course Title</u>
BMS500	4	Mammalian Physiology I
BMS545	5	Human Functional Neuroanatomy
BMS/NB 503	3	Developmental Neurobiology
BMS/NB 505	3	Neuronal Circuits, Systems & Behavior
BMS610A	1	Managing a Career in Science

In the event that the student has already taken courses that are in the core curricula during their undergraduate program, they may substitute other advanced courses, but they shall be expected to demonstrate mastery in the core curriculum courses listed above in the comprehensive written examinations. Once a plan for fulfillment of the degree program is determined by the student and the *MS-B Coursework Steering Committee*, the student shall file a *Program of Study* (GS Form 6) with the Graduate School. A cumulative GPA of ≥ 3.0 in both regular and overall coursework must be maintained to remain in good academic standing.

An MS-B based solely on coursework and written comprehensive examinations shall not meet the requirement necessary for qualification for advancement to PhD candidacy in the Department.

All MS-B Coursework students must take written comprehensive examinations at the end of their course of study. The goal of the exam shall be to assess the student's:

- ❖ understanding of the course material in their respective core curriculum
- ❖ writing skills
- ❖ problem solving skills

To be eligible to sit for the written comprehensive examinations, students must receive a “C” or better in each core course (*a “core course” is determined by the student’s declared concentration*). All core courses must be completed and students who receive a “D” or lower in a core course will not be permitted to take comprehensive examinations in any of their core courses until they retake the course(s) in question and receive a “C” or better. Students will be notified of the written comprehensive examination and retake examination dates at the start of their academic program. Students will be given only one chance to retake the course(s) in question to remediate their grade. Once that condition has been satisfied, students will then be able to take their comprehensive examinations the next spring they are offered.

Should students fail to remediate a “D” or lower in a core course, they will be dismissed. The Director of the *MS-B Coursework Program* must provide written documentation substantiating the dismissal, submit the decision to the Department Head for approval, and forward the decision to the Dean of the Graduate School.

Students who fail the final written comprehensive examination by scoring less than 80% on any one exam may be re-examined once on the exam(s) they failed. The re-examination shall be held not earlier than 2 months, unless requested by the student, nor later than 12 months after the first examination. Should students fail the retake by scoring less than 80% on any one exam, the failed exam will be reviewed by a faculty expert in the subject matter, someone other than the instructor(s) in the course, to independently confirm that the retake exam(s) did indeed fall below the requisite 80% level of proficiency.

Students who fail any one or more of the retake exams will be dismissed by the Graduate School without earning the master's degree. Students may exercise their option of meeting with a panel to discuss the test results and the dismissal process. This optional meeting is **not** an appeal process, as the failed exam has already been reviewed for the purpose of giving the student the benefit of the doubt. The panel will consist of the Director of the MS-B Coursework Program, the GEC Chair, the Department Head, the course coordinator, the independent reviewer of the exam, and the student’s academic advisor. The panel can answer questions the student may have, and can provide some career counseling, HOWEVER it must be emphasized that this panel is not convened to hear appeals for a change of grade. All MS-B Coursework students are required to complete an exit survey before being cleared to graduate.

2. MS-B Coursework with Specialization in Assisted Reproductive Technologies (MS-B ART Coursework)

The Department of Biomedical Sciences offers an MS-B Coursework degree that specializes in learning laboratory techniques used in assisted reproduction. This MS-B ART Coursework program does not require a research-based thesis or a written comprehensive examination. It emphasizes didactic coursework and acquisition of laboratory skills utilized in assisted reproduction; and either an internship or a research project, which each student must complete. This MS-B ART Coursework requires 30 credits of coursework (no more than 7 total credits in the 300/400 level can be applied to the 30 credits) and a written paper, describing the student's internship or research project. A cumulative GPA of ≥ 3.0 in both regular and overall coursework must be maintained to remain in good academic standing.

Admission to the MS-B ART Coursework program is dependent on the following criteria: the applicant should have graduated from an undergraduate program with a grade point average (GPA) of 3.0 or better or qualified for Track II admission; have completed the GRE, MCAT, or DAT; and have completed the TOEFL (*Test of English as a Foreign Language*) or IELTS (*International English Language Testing System*) exam if the applicant is a foreign student from a country where English is not the official language. The Department of Biomedical Sciences does not offer conditional admission; therefore applicants must achieve minimum scores on the TOEFL (≥ 550 paper-based; ≥ 80 internet-based) or IELTS (6.5) exam. Admission with an undergraduate GPA less than 3.0 is possible by written petition of the Graduate School, containing

sufficient justification as to why the applicant should be admitted.

Applications for the MS-B ART Coursework program are reviewed by a committee appointed by the Graduate Education Committee. This committee, the *MS-B ART Coursework Steering Committee*, will also serve as the graduate advisor for all MS-B ART Coursework students. This committee shall:

- ❖ assess student backgrounds, interests, and goals
- ❖ inform students of existing Departmental requirements for graduation
- ❖ recommend a tentative plan of study

The **curriculum** is designed to prepare students for employment in the assisted reproduction industry (human or animal) or for advanced degree programs. MS-B ART Coursework students are responsible for finding an **internship/research project** that must be pre-approved by the *MS-B ART Coursework Exam Committee*. The final internship/research project may be paid or unpaid, at CSU or with industry, and will be evaluated by the MS-B ART Coursework Exam Committee. The final internship/research project will be evaluated based upon three criteria:

- ❖ Student's proposal of goals and objectives
- ❖ Feedback from the internship supervisor
- ❖ Ten-page paper regarding internship/research project

All MS-B ART Coursework students must submit a **ten-page paper** (single-spaced in 12-point font) regarding their internship/research project, which serves as their final exam. The paper will be evaluated by the MS-B ART Coursework Exam Committee, describing:

- ❖ what specifically was done
- ❖ what was learned
- ❖ how this knowledge relates to the industry and/or general knowledge of the field

Required Courses:

<u>Course</u>	<u>Credits</u>	<u>Course Title</u>
BMS409 or BMS640	3 4	Human and Animal Reproductive Biology or Reproductive Physiology and Endocrinology
BMS500 or BMS501	4 4	Mammalian Physiology I or Mammalian Physiology II
BMS610A or GRAD544B	1 1	Managing a Career in Science or Ethical Conduct of Research
BMS521	3	Comparative Reproductive Physiology
BMS540	3	Assisted Reproductive Technologies Lab I
BMS541	3	Assisted Reproductive Technologies Lab II
BMS642	1	Research Techniques for Gametes and Embryos
BMS792	1	Seminar (either Fall or Spring)
BMS795E	0-4	Independent Study or Internship (Fall/Spring)

In the event that students have already taken courses that are in the core curricula during their undergraduate program, they may substitute other advanced courses. Once a plan for fulfillment of the degree program is determined by the student and the *MS-B ART Coursework Steering Committee*, the student shall file a *Program of Study* (GS Form 6) with the Graduate School.

Should students perform unsatisfactorily in their internship/research project, they will be notified in writing and given one additional chance to arrange another internship/research project and perform satisfactorily. The second internship/research project must be completed within one calendar year of the date on the written notification of unsatisfactory performance. If students fail to perform satisfactorily on the second internship/research project, the unsatisfactory internship/research project proposal, supervisor feedback, and paper will be reviewed by a faculty expert in the discipline, *someone other than the MS-B ART Coursework Exam Committee*, to independently confirm that the internship/research project was not performed satisfactorily.

Students who perform unsatisfactorily on the second internship/research project will be dismissed without earning their degree. Students may exercise their option of meeting with a panel to discuss their unsatisfactory internship/research project performance and the dismissal process. This optional meeting is **not** an appeal process, as the unsatisfactory internship/research project has already been reviewed for the purpose of giving the student the benefit of the doubt. The panel will consist of the Director of the MS-B ART Coursework Program, the GEC Chair, the Department Head, the independent reviewer of the internship/research project, and the student's academic advisor. The panel can answer questions the student may have, and can provide some career counseling, HOWEVER it must be emphasized that this panel is not convened to hear appeals for a change of decision.

Should a student in this program elect to pursue an advanced degree, an MS-B based solely on coursework and a written paper covering the student's internship/research project shall not meet the requirement necessary for qualification for advancement to PhD candidacy in the Department. All MS-B ART Coursework students are required to complete an exit survey before being cleared to graduate.

IV. COMBINED DVM/PHD PROGRAM

The DVM/PhD program at Colorado State University is a 7-8 year course of study leading to both a PhD and a DVM degree. The purpose of the program is to recruit a critical mass of highly competitive, motivated students who will serve as the cornerstone of the translational research mission of CSU. Admission to the DVM/PhD program is highly competitive and is governed by a separate DVM/PhD selection committee. Students participating in the DVM/PhD program who pursue their PhD component in the Department of Biomedical Sciences shall follow the same rules, regulations, and requirements for graduate studies as stipulated in this document.
