

MASTER OF SCIENCE IN BIOMEDICAL SCIENCES, PLAN B, REPRODUCTIVE TECHNOLOGY SPECIALIZATION

The Master of Science in Biomedical Sciences, Plan B, Reproductive Technology Specialization is a one-year, non-thesis study of Assisted Reproductive Technologies (ART), culminating in writing a scholarly paper based on a research project or reproductive topic and the completion of an internship. It provides students with in-depth laboratory training in *in vitro* embryo production based on a bovine model, including techniques such as *in vitro* fertilization, embryo and semen cryopreservation and vitrification, embryo biopsy and micromanipulation, and basic maintenance of an assisted reproduction laboratory and all associated equipment. The curriculum prepares students for careers in applied reproduction, especially careers in human or bovine embryology, as well as application to professional or graduate school.

Students interested in graduate work should refer to the Graduate and Professional Bulletin (<https://catalog.colostate.edu/general-catalog/graduate-bulletin/>). Visit the Department of Biomedical Sciences (<https://vetmedbiosci.colostate.edu/degree-programs/graduate/ms-biomedical-sciences/assisted-reproductive-technologies/>) for more information.

Requirements Effective Fall 2021

Code	Title	Credits
Core Courses		
BMS 521	Comparative Reproductive Physiology	3
BMS 540	Assisted Reproductive Technologies Lab I	3
BMS 541	Assisted Reproductive Technologies Lab II	3
BMS 642	Research Techniques for Gametes and Embryos	1
BMS 792C	Seminar: Reproductive Physiology	1
BMS 795E	Independent Study: Reproductive Physiology ^{1,2}	3-4
Select one course from the following:		3-4
BMS 409	Human and Animal Reproductive Biology	
BMS 640	Reproductive Physiology and Endocrinology	
Select one course from the following:		4
BMS 500	Mammalian Physiology I	
BMS 501	Mammalian Physiology II	
Select one course from the following:		1
BMS 610A	Managing a Career in Science: Survival Skills for Coursework (M.S.)	
GRAD 544	Ethical Conduct of Research	
Selected Courses		
Select 6-8 credits from the following: (No more than 4 credits at the 300- or 400-level will count toward the master's degree) ³		6-8
ANEQ 510	Bovine Reproduction Management	

BC 463	Molecular Genetics
BMS 430	Endocrinology
BMS 501	Mammalian Physiology II
BMS 631	Mechanisms of Hormone Action
BMS 632	Metabolic Endocrinology
BMS 640	Reproductive Physiology and Endocrinology
BZ 455	Human Heredity and Birth Defects
CM 666/PHIL 666	Science and Ethics
FW 465	Managing Human-Wildlife Conflicts
FW 469	Conservation and Management of Large Mammals
FW 555	Conservation Biology
STAR 511	Design and Data Analysis for Researchers I
VS 626	Infertility and Genital Disease

Required Scholarly Paper²

Program Total Credits	30
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A minimum of 30 credits are required to complete this program.

- Students must undertake an extensive laboratory project or internship working with oocyte culture IVF, embryo development, or cryopreservation.
- Students must complete a scholarly paper detailing their extensive laboratory project or internship BMS 795E.
- Select additional courses with advisor approval.

Requirements for All Graduate Degrees

For more information, please visit Requirements for All Graduate Degrees (<https://catalog.colostate.edu/general-catalog/graduate-bulletin/graduate-study/procedures-requirements-all-degrees/>) in the Graduate and Professional Bulletin (<https://catalog.colostate.edu/general-catalog/graduate-bulletin/>).

Summary of Procedures for the Master's and Doctoral Degrees

NOTE: Each semester the Graduate School publishes a schedule of deadlines. Deadlines are available on the Graduate School website (<https://graduateschool.colostate.edu/deadline-dates/>). Students should consult this schedule whenever they approach important steps in their careers.

Forms (<https://graduateschool.colostate.edu/forms/>) are available online.

Step	Due Date
1. Application for admission (online)	Six months before first registration
2. Diagnostic examination when required	Before first registration
3. Appointment of advisor	Before first registration
4. Selection of graduate committee	Before the time of fourth regular semester registration
5. Filing of program of study (GS Form 6)	Before the time of fourth regular semester registration
6. Preliminary examination (Ph.D. and PD)	Two terms prior to final examination

7. Report of preliminary examination (GS Form 16) - (Ph.D. and PD)	Within two working days after results are known
8. Changes in committee (GS Form 9A)	When change is made
9. Application for Graduation (GS Form 25)	Refer to published deadlines from the Graduate School Website
9a. Reapplication for Graduation (online)	Failure to graduate requires Reapplication for Graduation (online) for the next time term for which you are applying
10. Submit thesis or dissertation to committee	At least two weeks prior to the examination or at the discretion of the graduate committee
11. Final examination	Refer to published deadlines from the Graduate School Website
12. Report of final examination (GS Form 24)	Within two working days after results are known; refer to published deadlines from the Graduate School website
13. Submit a signed Thesis/ Dissertation Submission Form (GS Form 30) to the Graduate School and Submit the Survey of Earned Doctorates (Ph.D. only) prior to submitting the electronic thesis/ dissertation	Refer to published deadlines from the Graduate School website.
14. Submit the thesis/dissertation electronically	Refer to published deadlines from the Graduate School website
15. Graduation	Ceremony information is available from the Graduate School website