VETERINARY MEDICINE MICROBIOLOGY (VETMI)

VETMI 5000 - Independent Study in Immunology (1-3 Credits)
This course will allow students to gain an in-depth knowledge of basic immunology through independent study under the guidance of faculty on individual topics.
Enrollment Information: Permission of instructor required.
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Schedule of Classes (https://classes.cornell.edu/)

VETMI 6200 - Research Fellowship in Microbiology and Immunology (1-12 Credits)
Offered by individual faculty members in the Department of Microbiology and Immunology for DVM students undertaking research in Research Fellowship.
Enrollment Information: Permission of instructor required.
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Schedule of Classes (https://classes.cornell.edu/)

VETMI 6630 - Immuno-engineering (3 Credits)
Crosslisted with MAE 6630
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7050 - Advanced Immunology (3 Credits)
Crosslisted with BIOMS 7050
Last Four Terms Offered: Spring 2022, Spring 2020, Spring 2018, Spring 2016
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7070 - Advanced Work in Bacteriology, Virology, and Immunology (1-3 Credits)
Designed primarily for graduate students with a background in pathogenic microbiology and immunology. May be elected by veterinary students who are properly prepared.
Enrollment Information: Permission of instructor required.
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7120 - Seminars in Infection and Immunity (1 Credit)
The Seminars in Infection and Immunity Series hosts local, national, and international speakers in the immunology, microbiology, virology, and parasitology sectors to acquaint students with current advances and insight in the field. This course provides students with lunch discussions with each speaker to offer networking opportunities with established scientists. Seminars are open to the public. The seminar schedule and list of speakers for each semester can be found by going to the CVM Department of Microbiology and Immunology website. Requirement for graduate students in the field of Immunology and Infectious Disease in the BBS program.
Enrollment Information: Enrollment limited to: graduate students.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7412 - Internal Parasites of Pigs (1 Credit)
In-depth look at porcine endoparasites of major importance in North America and Europe. Details of taxonomy, biology, epidemiology, pathology, host immunity, clinical presentation, and preventative and curative treatment. Consideration of efficacy of available parasiticides. Information from studies reported in primary literature will be reviewed where applicable.
Prerequisites: VETMI 7440 or permisson of instructor required.
Last Four Terms Offered: Summer 2025, Spring 2024, Fall 2023, Summer 2023
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7418 - Parasite Diagnostic Methods (2 Credits)
This course will present the principles behind commonly used diagnostic techniques to identify parasitic infections, including: fecal and blood examination techniques, culture methods, morphologic identification, ELISA, PCR, patient-side tests, and more. Lectures will be comprised mainly of video demonstrations of the relevant techniques.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7420 - Parasite Identification Methods (1.5 Credits)
Identification and differentiation of common protistan, helminth and acarid parasites and artifacts and pseudoparasites found in the feces, urine, blood, and skin scrapings of domestic animals.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7421 - Applied Parasite Identification and Diagnosis (1.5 Credits)
Students will perform necropsies for parasite recovery and identification as per FDA trial purposes. Domestic and wild animal species will be utilized for the purpose of presenting methods for the examination of the different organ systems for parasite recovery.
Enrollment Information: Permission of instructor required.
Last Four Terms Offered: Summer 2025, Summer 2024, Summer 2022, Summer 2021
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7423 - Clinical Parasitology Cases: Production Animals (1 Credit)
Cases from all major large animal hosts will have the students work through a series each laboratory from presentation, samples, diagnostic testing, and suggestion of treatment, therapy, and follow up. The course will utilize fixed and prepared samples, and living materials when available.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7424 - Clinical Parasitology Cases: Companion and Laboratory Animals (1 Credit)
Cases from all major small animal hosts will have the students work through a series each laboratory from presentation, samples, diagnostic testing, and suggestion of treatment, therapy, and follow up. The course will utilize fixed and prepared samples, and living materials when available.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7431 - Antiparasitic Vaccines (1 Credit)
Discussions on the principles of vaccine design, the history of vaccine use in veterinary medicine, and the regulatory approval process with focus on specific products developed for coccidia in poultry, vector-borne protozoal agents, and nematodes of livestock; the successes and failures of these efforts; and future prospects.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7432 - Anthelmintic Resistance and Integrated Parasite Control (2 Credits)
Alternative methods to parasite control will be discussed, e.g., pasture rotation and maintenance, herbal products, copper wire particles, various feed-stuffs such as tannins, and biological control methods.
Prerequisites: VETMI 7410 or permission of instructor required.
Enrollment Information: Enrollment limited to: MPS students.
Last Four Terms Offered: Summer 2024, Summer 2023, Summer 2022, Summer 2021
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7433 - Statistics for Surveillance, Diagnostic Test Development and Efficacy Studies (2 Credits)
Introduction to statistics as it relates to both experimental and observations studies will allow students to be able to interpret statistics and understand the need for statistical testing in study design. Students will obtain practice with data collection, entry, and analysis.
Enrollment Information: Enrollment limited to: MPS students.
Last Four Terms Offered: Spring 2025, Summer 2024, Spring 2024, Spring 2023
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7434 - Product Development, Regulations and Approval Process (2 Credits)
Introduction to the concepts, considerations and processes involved in acquisition of FDA, EPA, and USDA approvals and registrations for parasiticides: responsibilities of study directors and monitors, guidelines, discovery, research and product development, etc. Sample protocols and FDA, EPA, and USDA registrations will be examined.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7435 - The U.S. Government and Animal Health (1 Credit)
Many federal agencies interact with the veterinary community in activities such as disease reporting, the regulatory process of drug approval, and pharmaceutical adverse event reporting. Congress also plays a very important role in animal health. This course will provide a broad review of the structure and roles of the government with respect to animal health, relating how they are relevant to the animal health community. Lectures will emphasize government structure and codification of authority; understanding federal authorities and activities in areas including agriculture, disease reporting, pharmaceutical regulation, research, and trade; and case studies. Guest presentations from experts who have worked with or for many of these agencies will be provided. This course is intended for students enrolled in their first semester of the Master of Professional Studies in Veterinary Medicine.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7436 - Capstone Project I: Exploring the Literature (2 Credits)
In this course students will develop a topic for their literature-review dealing directly with a subject in veterinary parasitology and will be assigned a faculty mentor. Students will identify their academic sources and will be expected to submit an annotated bibliography for review. This course will assess a student's ability to read, evaluate and integrate the research literature into the design of a veterinary parasitology investigation.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Summer 2025, Spring 2025, Fall 2024, Summer 2024
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7440 - Parasites of Domestic Animals (4 Credits)
Introduction to the arthropod, protist, and helminth parasites of domestic animals with an emphasis on the biology, diseases induced, and their control. Objective is to have a basic understanding of the biology of these organisms that are important to veterinary medicine, producers, consumers, and commercial antiparasite product and vaccine developers.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7441 - Parasitism in Wildlife and Zoo Animals (2 Credits)
Parasites of wildlife, mainly of more studied hosts. Emphasis on morphology, biology, diversity, and effects on host and environment. Examples of parasites of invertebrates, fish, amphibia, reptiles, birds, and mammals. Objective is an appreciation of the diversity of parasites and to introduce the impact that these parasites have on biology.
Enrollment Information: Enrollment limited to: MPS students. Permission of instructor required.
Last Four Terms Offered: Spring 2025, Summer 2024, Spring 2024, Summer 2023
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7444 - Molecular Parasitology (1 Credit)
Last Four Terms Offered: Spring 2021, Summer 2020
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7446 - Capstone Project II: Systematic Literature Review (4 Credits)
Critical evaluation and integration of the research literature is a critical tool of the modern parasitologist. This course will provide students with the ability to read, understand, evaluate and integrate the research literature in veterinary parasitology. Students will enhance their writing and presentation skills in the preparation of the project. Students will prepare a literature-review based project dealing directly with a subject in veterinary parasitology. This project is an in depth and extensive review of the literature, culminating in the preparation of an hour-long lecture to be presented at the end of the course, and submit a final copy of the required paper. This course is intended for students enrolled in their final semester of the Masters of Professional Studies in Veterinary Medical Sciences. Students will present to MPS faculty in person during the final exam period.
Prerequisites: VETMI 7436.
Enrollment Information: Enrollment limited to: MPS students.
Last Four Terms Offered: Summer 2025, Spring 2025, Fall 2024, Summer 2024
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7448 - Histopathologic Interpretation of Parasites in Host Tissues (1 Credit)
Live on-line instruction presenting the morphologic features of major parasite groups and important species to allow parasite, protozoa, helminths, and arthropod, identification in histologic section. It will be presented as a 10 day lab course presented with presentation of the material live on line with ZOOM or equivalent.
Prerequisites: VETMI 7440 or equivalent.
Enrollment Information: Enrollment limited to: MPS students or permission of instructor.
Last Four Terms Offered: Summer 2025, Summer 2024, Summer 2023, Summer 2022
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7449 - Scholarly Writing and Critical Review of Scientific Literature (2 Credits)
Through critically reviewing peer reviewed parasitology literature, course participants will gain skills in assessing study design and interpretation of results. Written critiques and annotations of literature will enable opportunities to practice scientific writing. In addition, participants will gain skills in oral and poster presentations and grant writing.
Enrollment Information: Enrollment limited to: MPS students.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7454 - Parasitology Seminar (1 Credit)
This seminar series provides students an opportunity to learn about and apply previously learned parasitology knowledge to new hosts and parasites. All students will participate in the seminars for three semesters. The first two semesters will be ungraded, and the final semester will be graded. During the final semester, each student will lead asynchronous discussions for two weeks on a parasite and host not discussed in core classes. During the first week, the student leader will provide a handout with the life cycle, a 10-to-15-minute recorded lecture on the parasite/host and kickoff discussion with one or two questions. During the next week, the student leader will provide a case report involving the parasite/host, a summary of the report and two to three questions for discussion.
Enrollment Information: Enrollment limited to: students in the veterinary MPS program.
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7455 - Parasitology Identification and Diagnostics: Skills Assessment (1 Credit)
This course assesses the student's ability to put their knowledge and understanding of parasitology laboratory methods and parasite identification into practice. Students will demonstrate their knowledge of laboratory methods and practice parasite identification skills through activities such as identifying parasites using taxonomic keys, selecting laboratory methods based on protocol outlines or disease diagnosis, critiquing methods used in the literature, and writing Standard Operating Procedures (SOPs). This course is intended as an online lab course for students enrolled in the Master of Professional Studies (MPS) in Veterinary Parasitology.
Prerequisites: VETMI 7420 and VETMI 7421.
Enrollment Information: Enrollment limited to: students in the Master of Professional Studies (MPS) in Veterinary Parasitology program.
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7456 - Veterinary Pharmacology and Antiparasitic Agents (2 Credits)
The first half of the course will familiarize students with the fundamental principles of veterinary pharmacology, provide a basic understanding of the major definitions and terms used in veterinary pharmacology, and provide the basics on the history and scope of veterinary pharmacology. The second half of the course will take an in-depth look at drugs and agents for the prevention and control of parasitic arthropods, protozoa, and helminths of domestic animals. Emphasis will be on products commercially available in North America and Europe. Presents details on known (or postulated) modes of action for classes of compounds, important differences between drugs within the same class, targeted parasitic life stages, approved drug use and extra label drug use. Established or suspected resistance of parasites to specific drugs or drug classes will be highlighted. This course is intended as a core course for students enrolled in the Master of Professional Studies (MPS) in Veterinary Parasitology program.
Enrollment Information: Enrollment limited to: students in the Master of Professional Studies (MPS) in Veterinary Parasitology program.
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7457 - Veterinary Ectoparasites and Vectors (3 Credits)
This course offers participants an overview of the biology of arthropods that impact animal health with a focus on morphology, physiology, life history and ecology. Emphasis will be placed on how physiology and environmental factors impact distribution and disease risk. Participants will have the option to go further in depth in diagnostics, vectored diseases and treatment, prevention and control (clinical concentration) OR explore laboratory raising of arthropods and surveillance techniques (research and conservation concentrations). This course is intended as an elective course for students enrolled in the Master of Professional Studies (MPS) in Veterinary Parasitology.
Enrollment Information: Enrollment limited to: students in the Master of Professional Studies (MPS) in Veterinary Parasitology program.
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7458 - Drug Discovery and Vaccines: The Process and Parasiticides (2 Credits)
This course is intended to introduce students to foundational principles in the discovery of drugs and vaccines for parasite control, including historic examples. The complexity and resource intensiveness of drug discovery and vaccines will be explored. Drug discovery topics will include basic principles of turning chemistry into a drug, identifying a target, and the complexity of developing a lead molecule into a product. Parasite vaccine topics will include the different categories, general formulation and testing and a critique of some current vaccines. Students will develop a sense of what is required for drug and vaccine development, including pitfalls and challenges.
Enrollment Information: Enrollment limited to: students in the Master of Professional Studies (MPS) in Veterinary Parasitology program.
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7459 - Clinical and Applied Parasitology: Dogs and Cats (3 Credits)
In-depth look at canine and feline parasites of major veterinary medical importance or of special interest (relative to zoonosis, etc.). Emphasis on parasites common in North America and Europe, with some discussion of other geographic regions. Presents details of taxonomy, biology, epidemiology, pathology, host immunity, clinical presentation, and preventative and curative treatment. Also, as relevant, consideration and discussion of parasitic susceptibility and resistance to available parasiticides. Information from studies reported in primary literature will be reviewed where applicable. This course is intended as an elective course for students enrolled in the Master of Professional Studies (MPS) in Veterinary Parasitology.
Enrollment Information: Enrollment limited to: students in the Master of Professional Studies (MPS) in Veterinary Parasitology program.
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7460 - Clinical and Applied Parasitology: Cattle and Sheep (3 Credits)
In-depth look at cattle and sheep parasites of major veterinary importance or of special interest (relative to zoonosis). Emphasis on parasites common in North America and Europe. Presents details of biology, epidemiology, pathology, host immunity, clinical presentation, control and treatment. Also, as relevant, consideration and discussion of parasitic susceptibility and resistance to available parasiticides (i.e., susceptibility of class of parasite, stages and genetic resistance). Information from studies reported in primary literature will be reviewed where applicable. This course is intended as an elective course for students enrolled in the Master of Professional Studies (MPS) in Veterinary Parasitology.
Enrollment Information: Enrollment limited to: Master of Professional Studies (MPS) in Veterinary Parasitology program.
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7461 - Parasites Without Boundaries (2 Credits)
This course is intended to introduce students to concepts and considerations related to the spread, control, and eradication of infectious agents (including the potential ramifications of such actions). Students will explore ways in which artificially-designated boundaries, such as “domestic vs wild”, “animal vs human”, “town/state/country”, cannot contain, and in fact may help parasites gain entry into new environments and host populations. Especially as global temperatures, travel, and encroachment into wild habitats increase. Additionally, students will consider the roles that parasite plasticity, ecology, and food chains play in this context.
Enrollment Information: Enrollment limited to: Master of Professional Studies (MPS) in Veterinary Parasitology program.
Schedule of Classes (https://classes.cornell.edu/)

VETMI 7462 - Topics in Veterinary Parasitology (1-4 Credits)
This course provides an opportunity for faculty to pilot a new course, or to offer a new course on a temporary basis and/or after the deadline for course submission has passed.
Enrollment Information: Enrollment limited to: Students enrolled in the MPS in Veterinary Parasitology program.
Schedule of Classes (https://classes.cornell.edu/)