BIOMEDICAL SCIENCES (BIOMS)

BIOMS 3110 - Principles of Animal Physiology (3 Credits)
Crosslisted with BIOAP 3110, VTBMS 3460
General course in animal physiology emphasizing principles of operation, regulation, and integration common to a broad range of living systems from the cellular to the organismal level. Structure/function relationships are stressed along with underlying physico-chemical mechanisms.
Prerequisites: BIOG 1500 and BIOG 1440 or BIOG 1445 or one year of college biology, one year of chemistry and mathematics or equivalent AP credit.
Distribution Requirements: (BIO-AS), (BSC-AG, OPHLS-AG)
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Learning Outcomes:

- Students should be able to rationalize the operation of major organ systems.
- Students should understand the organization of multisystem regulatory loops.
- Students should be able to derive and understand the basic equations defining the physical operating characteristics of organ systems.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 3160 - Cellular Physiology (3 Credits)
Crosslisted with BIOAP 3160
A comprehensive course covering the general characteristics of eukaryotic cells; the structure, composition, and function of subcellular organelles; and the major signal transduction pathways regulating a variety of physiological cell activities. Among the main subjects covered are absorption and transport processes, mechanism of action of signaling molecules (hormones), the cell cycle and regulation of cell proliferation, cell-cell communication, extracellular matrix, stem cells, apoptosis, and carcinogenesis.
Prerequisites: BIOMG 1350 or previous or concurrent enrollment in BIOMG 3300, BIOMG 3310, BIOMG 3320, BIOMG 3330, or NS 3200.
Distribution Requirements: (BIO-AS), (BSC-AG, OPHLS-AG)
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- Recognize and describe cell biology structure and physiology to human diseases characterized by disruption of the normal functioning of these structures and molecular processes.
- Recognize and describe cell biology structure and physiology to the molecular mechanisms altered by clinically used pharmaceuticals.
- Recognize and describe cell biology structure and physiology to complex tissue functions, particularly with respect to stem cell and cancer biology.
- Discuss current research aimed at uncovering the underlying molecular processes, therapeutic targeting, and solving the current challenges for treating human diseases related to dysfunction cell biological structure and physiology, particularly with respect to cancer biology.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 3190 - Laboratory in Physiology (4 Credits)
Crosslisted with BIOAP 3190
Student-conducted in vitro and in vivo experiments designed to illustrate basic physiological processes, physiological research techniques, instrumentation, experimental design, and interpretation of results. Techniques include anesthesia, surgical procedures, dissection, and real-time computer recording and analysis. Experiments with isolated living tissues or live anesthetized animals examine properties of membranes and epithelia, blood, nerves, skeletal and smooth muscle; cardiovascular, respiratory, renal, and reproductive function and their regulation by the nervous and endocrine systems.
Prerequisites: Prerequisite or corequisite: BIOAP 3110.
Enrollment Information: Enrollment limited to: pre-med/pre-vet juniors, seniors, and graduate students interested in biomedical science.
Distribution Requirements: (BIO-AS), (BSC-AG, OPHLS-AG)
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Learning Outcomes:

- After this course the student will be able to compute physical phenomena, including electrochemical gradients and mechanical forces in the physiology of live systems.
- After this course the student will be able to describe the scientific method including experimental design, formulating, and testing hypotheses.
- After this course the student will be able to work cooperatively in small groups.
- After this course the student will be able to communicate scientific concepts and experimental results in written and oral form.
- After this course the student will be able to use statistics to assess the significance of results.
- After this course the student will be able to research the published scientific findings and interpret them.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 3310 - General Parasitology (2 Credits)
This course is an introduction to the basic animal parasites, stressing systematics, taxonomy, general biology, ecological interactions, and behavior of non-medically important groups. Introduces the major animal parasite groups: protozoan, nematode, platyhelminth, acanthocephalan, annelid, and arthropod.
Prerequisites: BIOEE 1610, or BIOEE 1780, or BIOEE 2640, or BIOEE 2670, or BIOEE 2740, or NS 2750, or EAS 1700, or BIOMI 2900, or one semester college-level biology or majors-level biology, or equivalent courses.
Last Four Terms Offered: Spring 2023, Spring 2022, Spring 2021, Spring 2020
Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4040 - Pathogenic Bacteriology (2-3 Credits)
Crosslisted with BIOMI 4040
Course in medical microbiology, presenting the major groups of bacterial pathogens important to human and veterinary medicine. Emphasizes infection and disease pathogenesis. Topics include disease causality; interactions of host, pathogen, and environment, including immunity to bacteria; and principles of antimicrobial therapy and drug resistance. Recommended for those planning to attend medical school, graduate school, or veterinary medical school, or those just interested in how bacteria cause disease. A companion seminar addresses the current and classic literature related to the pathophysiology of medically important bacterial pathogens on the cellular and molecular levels.
Prerequisites: BIOMI 2900 or permission of instructor.
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- Describe the biology of a variety of pathogenic bacteria and how each causes disease.
- Describe the strategies bacteria use to overcome the defenses of their hosts.
- Explain the methodologies used to identify and study the factors that allow bacteria to cause disease.
- Predict the types of disease and symptoms a bacterial pathogen would cause when given information about the virulence factors that pathogen possesses.
- Additionally for the 3 credit option: Critically read the current literature in the field.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4090 - Principles of Virology (3 Credits)
Crosslisted with BIOMI 4090
Principles of Virology is a course designed to convey the basic principles of virus biology, to illustrate the key concepts of virus-host interactions and their consequences for virus replication and pathogenesis of viral disease. The course focuses on identifying unifying principles underlying virus biology and highlighting important differences between viruses. Viruses infecting plants, animals, and bacteria will be discussed. A graduate level component of this course will further focus on seminal virology research findings and the cutting-edge technologies used in modern experimental virology through primary literature reading assignments provided in addition to the lecture material.
Prerequisites: BIOMI 2900 or permission of instructor.
Distribution Requirements: (BIO-AS), (OPHLS-AG)
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Learning Outcomes:

- Identify, describe, and discuss the basic concepts of virus particle structure (including enveloped and non-enveloped viruses) and the biochemical and cell biological bases for virus entry, multiplication, and egress of different families of RNA, double-stranded RNA, and DNA viruses.
- Explain the basic principles of virus transmission in different phyla and recognize the features of viral pathogenesis and the role of host defenses in combatting viral infection.
- Understand the factors that contribute to virus evolution and emergence, and be able to apply that understanding to situations involving virus outbreaks that affect global health.
- Identify and recognize selected disease-causing viruses of animals (humans included), including COVID19, cancer, and flu.
- Identify and evaluate individual steps in a virus' replication cycle that can be effectively targeted by anti-viral drugs for pharmaceutical intervention of virus diseases.
- Discuss effective strategies for a) prevention of infection through development of viral vaccines and b) treatment of diverse human diseases by gene therapy through the design and administration of genetically engineered virus vectors.
- Be able to read about any virus and understand its replication and pathogenic strategies based on common principles of viral replication and pathogenesis.
- Identify, describe, and choose appropriate experimental approaches to address questions about virus entry, replication, and egress in cell culture.
- Identify, describe, and choose appropriate experimental approaches to address questions about viral pathogenesis and the use of animal models.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4130 - Histology: The Biology of the Tissues (4 Credits)
Crosslisted with BIOAP 4130
Provides students with a basis for understanding the microscopic, fine-structural, and functional organization of vertebrates (primarily mammals), as well as methods of analytic morphology at the cell and tissue levels. Emphasizes dynamic interrelations of structure, composition, and function in cells and tissues.
Prerequisites: BIOMG 1350.
Distribution Requirements: (BIO-AS), (BSC-AG, OPHLS-AG)
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- Recognize and describe the cells, tissues and organs of a mammalian body.
- Describe the connection between visual and functional aspect of each cell/tissue.
- Anatomically locate each tissue and organ in the body.
- Recognize the normal tissue as the basis to recognize how they change when affected by diseases (abnormal/pathological).
- Master the physiological complexity of body tissues.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4140 - Principles of Pharmacology (3 Credits)
Crosslisted with BIOAP 4140, BIONB 4140
Undergraduate course surveying system- and organ-related aspects of pharmacology. Topics include mechanisms of drug action; drug disposition; pharmacokinetics; autonomic pharmacology; pharmacology of inflammation, allergy and platelet function; and endocrine, cardiovascular, respiratory, gastrointestinal, and renal pharmacology. The course is designed for undergraduate life science majors, particularly those interested in medical or veterinary school.
Prerequisites: BIOAP 3110 or NS 3410.
Distribution Requirements: (BIO-AS), (OPHLS-AG)
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- Describe fundamental concepts of drug-receptor interactions.
- Describe the relation between cell membrane or intracellular drug targets and intracellular signaling systems that mediate cellular response.
- Describe the impact of drug accessibility to biological compartments on drug action.
- Describe the purpose as well as the detailed mechanisms of the biochemical reactions that render drug and xenobiotic compounds more suitable for elimination from the body.
- Describe the fundamental mechanisms responsible for various types of drug interactions.
- Describe the mechanism of therapeutic action of a selected drug at the molecular, cellular, and organ system level.
- Describe the common adverse effects of a selected drug and their mechanism of production.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4150 - Essential Immunology (3 Credits)
Course introduces the immune system and key concepts in immunology. Focuses on the human system and medically relevant pathogens and immunization. Course delves into the cell biology of signaling, genetic recombination and gene expression. Students will learn how immune cells develop, communicate and carry out immune responses. Students will learn how vaccines work and use clinical cases to apply knowledge of immune concepts. Course ends with a brief survey of immune-mediated diseases, cancer immunology and immunotherapies
Enrollment Information: Enrollment limited to: junior and senior undergraduate students; sophomores allowed only by instructor consent.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Learning Outcomes:

- State the purpose of the immune system & typical threats that it addresses.
- Relate the functions of cells, mediators & tissues involved in immune responses.
- Recount how extraordinarily diverse lymphocytes & antibodies meet evolving threats.
- Describe protective immune responses against pathogens in different tissues.
- Apply key immune concepts to clinical cases of immune deficiency.
- Explain how vaccines and monoclonal antibody therapies work.
- Practice science literacy skills on the topics of immunization and public health.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4250 - Applied Immunology (3 Credits)
Applied Immunology builds on knowledge of basic immunology. It picks up where BIOMS 4150 left off and covers diseases due to an unbalanced immune system. Topics include tolerance, homeostasis and barrier immunology, allergy, autoimmunity, transplantation, AIDS, and tumor immunology. The course will demonstrate that the field of applied immunology is dynamic and continually evolving by demonstrating how new technologies and research findings are applied toward designing immune-based therapies. Students will learn how commonly research methods measure immune responses.
Prerequisites: BIOMS 4150 or permission of instructor.
Enrollment Information: Enrollment limited to: undergraduate students.
Last Four Terms Offered: Spring 2025, Spring 2024
Learning Outcomes:

- Describe how the immune system is regulated to balance defense with tissue function.
- Recount how allergy, autoimmunity, and AIDS are caused by different aberrant immune responses.
- Explain how the immune system recognizes & responds to non-infectious threats such as cancers and tissue transplants.
- Illustrate how commonly used immunology research methods measure immune responses.
- Practice health literacy on the topic of immune-based therapies.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4310 - Medical Parasitology (2 Credits)
Crosslisted with BIOMI 4310
Systematic study of arthropod, protozoan, and helminth parasites of public health importance, with emphasis on epidemiologic, clinical, and zoonotic aspects of these parasitisms.
Prerequisites: one of the following courses: BIOEE 1610, BIOEE 1780, BIOEE 1180, BIOEE 2640, BIOEE 2740, BIOMI 2900, EAS 1700, or one semester college or majors-level biology, or equivalent course.
Last Four Terms Offered: Spring 2025, Fall 2023, Fall 2022, Fall 2021
Learning Outcomes:

- Categorize parasites of medical importance by recognizing key morphologic characteristics (useful for identification) of basic parasite groups.
- Describe, using appropriate terminology, the life cycle of parasites of medical importance and how it related to approaches in treatment and prevention of disease.
- Delineate classical clinical signs (or importance) associated with parasites of humans in relation to the parasite's biology.
- Choose appropriate measures for treatment and control of parasitic infections Predict likely parasitic differentials by considering host signalment, exposures (history), and clinical signs.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4311 - Paleoparasitology - Very, Very Cold Cases (1 Credit)
The course will introduce students to a new world of investigation into the ancient realm of human and animal associations with their parasites. Initial discoveries were parasites in tissues of Egyptian mummies and has now expanded to include human and animal remains from around the world. Parasites have also been found in coproliths from latrines and cave habitations from the Middle Pleistocene and from dinosaurs living in the early Cretaceous. Vectors and their parasites have been found in ambers that are from the Eocene. The application of modern molecular methods has added greatly to identification of these parasites of the past and have allowed new interpretations of the various agents that people have carried with them as they have traveled around the globe.
Prerequisites: an introductory biology course and BIOMS 3310, BIOMS 4310, or permission of instructor.
Last Four Terms Offered: Spring 2023, Spring 2022, Spring 2021, Spring 2020
Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4340 - Cellular and Molecular Microbial Pathogenesis: The Host Pathogen Interplay (3 Credits)
Understanding the disease state induced by infection with a microbial pathogen requires knowledge of both the infectious agent and the host. This course will integrate the immune response of the host to challenges from medically important pathogens, including viruses, parasites and bacteria, to provide a unified view of microbial pathogenesis. The lectures will integrate concepts from the disciplines of immunology, bacteriology, virology, and parasitology, to cover aspects of host cell biology and the innate and acquired immune responses of the host to infection. A range of medically relevant human and animal pathogens will be detailed, focusing on the host's response to commensalism versus disease, the mechanisms of host invasion, nutrient acquisition, and modulation of the host's immune response. The course will also discuss current disease interventions and the challenges facing antimicrobial therapy and vaccine development.
Distribution Requirements: (BIO-AS), (OPHLS-AG)
Last Four Terms Offered: Spring 2025, Spring 2023, Spring 2021, Spring 2019
Learning Outcomes:

- Explain the relationship between infectious agents, viruses, bacteria and parasites, and the host immune response at the cellular and molecular level.
- Describe how viruses, bacteria and parasites act uniquely, or use shared approaches to counteract or interact with components of the host immune response.
- Explain how viruses, bacteria and parasites replicate and spread, and what the host immune response does to prevent this.
- Take a comparative view of the cellular and molecular interaction between infectious agents and the host.
- Explain the success and failures in controlling infectious agents with therapy and vaccines.
- Interpret and explain experimental data from primary research studying viruses, bacteria and parasites.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 4980 - Undergraduate Supervised Teaching (1-4 Credits)
Students assist in teaching a course appropriate to their previous training. Students meet with a discussion or laboratory section and regularly discuss objectives with the course instructor.
Prerequisites: previous enrollment in course to be taught or equivalent.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)

BIOMS 5660 - Social Issues in Community Engagement by Cancer Scientists (1 Credit)
The goal of this intensive weekend workshop is to provide students an understanding of social issues of relevance to cancer patients. Topics to be covered may include but are not limited to psychological and economic impacts of cancer, health disparities, cancer advocacy, clinical trial access and patient rights, and public communication of science.
Exploratory Studies: (CU-CEL)

Last Four Terms Offered: Spring 2023, Spring 2022, Spring 2021, Spring 2017
Learning Outcomes:

- Evaluate and integrate the many challenges faced by cancer patients, including physical, emotional, financial, and legal issues.
- Apply their new understanding of social issues in cancer to effectively and comfortably communicate with cancer patients.
- Critically assess the interface between the community and academic research establishment, judge where there could be improved connectivity, and design effective strategies to bring the two together.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 6090 - Principles of Virology (3 Credits)
Crosslisted with BIOMI 6090
Principles of Virology is a course designed to convey the basic principles of virus biology, to illustrate the key concepts of virus-host interactions and their consequences for virus replication and pathogenesis of viral disease. The course focuses on identifying unifying principles underlying virus biology and highlighting important differences between viruses. Viruses infecting plants, animals, and bacteria will be discussed. A graduate level component of this course will further focus on seminal virology research findings and the cutting-edge technologies used in modern experimental virology through primary literature reading assignments provided in addition to the lecture material.
Prerequisites: BIOMI 2900 or permission of instructor.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022
Learning Outcomes:

- Identify, describe, and discuss the basic concepts of virus particle structure (including enveloped and non-enveloped viruses) and the biochemical and cell biological bases for virus entry, multiplication, and egress of different families of RNA, double-stranded RNA, and DNA viruses.
- Explain the basic principles of virus transmission in different phyla and recognize the features of viral pathogenesis and the role of host defenses in combatting viral infection.
- Understand the factors that contribute to virus evolution and emergence, and be able to apply that understanding to situations involving virus outbreaks that affect global health.
- Identify and recognize selected disease-causing viruses of animals (humans included), including COVID19, cancer, and flu.
- Identify and evaluate individual steps in a virus' replication cycle that can be effectively targeted by anti-viral drugs for pharmaceutical intervention of virus diseases.
- Discuss effective strategies for a) prevention of infection through development of viral vaccines and b) treatment of diverse human diseases by gene therapy through the design and administration of genetically engineered virus vectors.
- Be able to read about any virus and understand its replication and pathogenic strategies based on common principles of viral replication and pathogenesis.
- Identify, describe, and choose appropriate experimental approaches to address questions about virus entry, replication, and egress in cell culture.
- Identify, describe, and choose appropriate experimental approaches to address questions about viral pathogenesis and the use of animal models.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 6150 - Essential Immunology (3 Credits)
Course introduces the immune system and key concepts in immunology. Focuses on the human system and medically relevant pathogens and immunization. Course delves into the cell biology of signaling, genetic recombination & gene expression. Students will learn how immune cells develop, communicate and carry out immune responses. Students will learn how vaccines work and use clinical cases to apply knowledge of immune concepts. Course ends with a brief survey of immune-mediated diseases, cancer immunology and immunotherapies, topics that are covered in more detail in BIOMS 6250 in spring.
Enrollment Information: Enrollment limited to: graduate students.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022
Learning Outcomes:

- State the purpose of the immune system & typical threats that it addresses.
- Relate the functions of cells, mediators & tissues involved in immune responses.
- Recount how extraordinarily diverse lymphocytes & antibodies meet evolving threats.
- Describe protective immune responses against pathogens in different tissues.
- Apply key immune concepts to clinical cases of immune deficiency.
- Explain how vaccines and monoclonal antibody therapies work.
- Practice science literacy skills on the topics of immunization and public health.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 6151 - Essential Immunology and Infectious Disease: Research Methods and Design I (1 Credit)
This course, which is intended to go hand in hand with BIOMS 6150 (Essential Immunology), will teach students how to read and critically interpret immunology and infectious disease research. The course will introduce common experimental methods and feature pillars of immunology and infectious disease articles. Students will practice applying key concepts and experimental methods that are covered concurrently in BIOMS 6150.
Corequisites: BIOMS 6150 or permission of instructor.
Enrollment Information: Enrollment limited to: graduate students in the BBS program with a concentration in immunology, or by permission of instructor.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022
Learning Outcomes:

- Gain a strong foundation in applying scientific method to the stud of immunology.
- Critically read immunology studies.
- Explain common research methods.
- Interpret experimental data.
- Build skills of experimental design and evaluating the conclusions of published studies.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 6250 - Applied Immunology (3 Credits)
Applied Immunology builds on knowledge of basic immunology. It picks up where BIOMS 4150/BIOMS 6150 left off and covers diseases due to an unbalanced immune system. Topics include tolerance, homeostasis and barrier immunology, allergy, autoimmunity, transplantation, AIDS, and tumor immunology. The course will demonstrate that the field of applied immunology is dynamic and continually evolving by demonstrating how new technologies and research findings are applied toward designing immune-based therapies. Students will learn how commonly research methods measure immune responses.
Prerequisites: BIOMS 4150 or BIOMS 6150 or permission of instructor.
Enrollment Information: Enrollment limited to: graduate students.
Last Four Terms Offered: Spring 2025, Spring 2024
Learning Outcomes:

- Describe how the immune system is regulated to balance defense with tissue function.
- Recount how allergy, autoimmunity, and AIDS are caused by different aberrant immune responses.
- Explain how the immune system recognizes & responds to non-infectious threats such as cancers and tissue transplants.
- Illustrate how commonly used immunology research methods measure immune responses.
- Practice health literacy on the topic of immune-based therapies.
- Interpret and explain experimental immunology data.
- Explain how an immune-based therapy works and propose how to improve it.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 6251 - Essential Immunology and Infectious Disease: Research Methods and Design II (1 Credit)
This course, which is intended to follow BIOMS 6151, will teach students how to critically interpret immunology and infectious disease research. The course will use cutting edge papers to develop student's critical interpretation of immunology and infectious disease experiments.
Prerequisites: BIOMS 4150 or BIOMS 6150.
Enrollment Information: Enrollment limited to: graduate students in the BBS program with a concentration in immunology and infectious disease, or by instructor consent.
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023
Learning Outcomes:

- Gain a strong foundation in applying scientific method to the study of immunology and infectious disease.
- Critically read cutting-edge immunology studies.
- Explain current and cutting-edge research methods.
- Interpret experimental data.
- Build skills of experimental design and evaluating the conclusions of published studies.

Schedule of Classes (https://classes.cornell.edu/)

BIOMS 6340 - Cellular and molecular microbial pathogenesis: The host pathogen interplay (3 Credits)
Understanding the disease state induced by infection with a microbial pathogen requires knowledge of both the infectious agent and the host. This course will integrate the immune response of the host to challenges from medically important pathogens, including viruses, parasites and bacteria, to provide a unified view of microbial pathogenesis. The lectures will integrate concepts from the disciplines of immunology, bacteriology, virology, and parasitology, to cover aspects of host cell biology and the innate and acquired immune responses of the host to infection. A range of medically relevant human and animal pathogens will be detailed, focusing on the host's response to commensalism versus disease, the mechanisms of host invasion, nutrient acquisition, and modulation of the host's immune response. The course will also discuss current disease interventions and the challenges facing antimicrobial therapy and vaccine development.
Last Four Terms Offered: Spring 2025, Spring 2023
Learning Outcomes:

- Explain the relationship between infectious agents, viruses, bacteria and parasites, and the host immune response at the cellular and molecular level.
- Describe how viruses, bacteria and parasites act uniquely, or use shared approaches to counteract or interact with components of the host immune response.
- Explain how viruses, bacteria and parasites replicate and spread, and what the host immune response does to prevent this.
- Take a comparative view of the cellular and molecular interaction between infectious agents and the host.
- Explain the success and failures in controlling infectious agents with therapy and vaccines.
- Interpret and explain experimental data from primary research studying viruses, bacteria and parasites.

Schedule of Classes (https://classes.cornell.edu/)

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

BIOMS 7900 - Seminars in Stem Cell Research (0 Credits)
This course is organized as work-in-progress presentations by faculty, post-docs, and students participating in stem cell research. Each student in the Cornell Training Program in Stem Cell Research presents one seminar per year based on their research. The student then meets with the thesis committee members for an evaluation of the presentation.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Learning Outcomes:

- Explain the relevance of presented project to stem cell research and regenerative medicine.
- Identify potential opportunities for cross-disciplinary and collaborative research in presented project.

Schedule of Classes (https://classes.cornell.edu/)