BIOMEDICAL SCIENCE (BIOM)

BIOM 501 — Molecular Basis of Medicine
The course presents fundamental information regarding biochemistry, molecular biology and medical genetics in a way that is highly practical in today's clinical and/or research setting. This overview course includes discussions of molecular biology and genetics, metabolism and energy usage and generation in cellular and homeostatic processes within humans.
5 credits
In-Person

BIOM 503 — Human Anatomy I
This course provides a comprehensive consideration of the human anatomy as it relates to function in order to provide the anatomical component of diagnosis and treatment. Course objectives include the demonstration of anatomical structural knowledge of all systems in the human body, including musculoskeletal, neuronal, lymphatic, respiratory, cardiovascular, digestive, urinary and reproductive. Emphasis is placed on structural relationships and functional correlations. A laboratory component utilizing cadaveric specimens will assist with integration of structural relationships from a 3D perspective.
4 credits
In-Person

BIOM 504 — Biomedical Histology
Students receive fundamental information regarding the structure and function of cells, how cells are organized into tissues and how tissues are organized into organs. In the histology laboratory, students learn to identify cells, tissues and organs through microscopic images.
3 credits
In-Person

BIOM 506 — Medical Pharmacology
This course presents an introduction to the basic concepts and principles of pharmacology. Specific lectures are presented in the areas of pharmacokinetics, autonomic pharmacology, cardiovascular pharmacology, CNS pharmacology and the control of pain.
3 credits
In-Person

BIOM 507 — Biomedical Physiology
The study of human physiology is guided by organ systems and the essential knowledge base required for understanding their functions and their interactions. The organ systems covered include but not limited to the Cardiovascular, Pulmonary, Renal, Gastrointestinal, Endocrine, and Female and Male Reproductive System. Study of each organ system may incorporate the most common diseases or challenges to homeostasis for that system. The goal of the course is to provide the student with an understanding of the fundamental mechanisms of human physiology.
3 credits
In-Person

BIOM 508 — Biostatistics
This course introduces the student to basic principles of statistical methods as applied to research, design and critical reading of the scientific literature. Students will learn, review and demonstrate knowledge of statistical concepts through the use of numerous real-life data sets and case studies. Students will have opportunities to practice through in-class discussions, homework exercises and class projects.
2 credits
In-Person

BIOM 509 — Scientific and Medical Communication Skills
This course is designed to teach basic scientific and medical terminology communications skills that are crucial to the success of graduate students in the biomedical sciences. Various communication topics and strategies will be addressed. Students will be trained to read, interpret and use various formats to communicate scientific and medical information from primary scientific literature. Practice opportunities, exercises, and critiques will be provided.
2 credits
In-Person

BIOM 510 — Medical Microbiology and Immunology
This course introduces graduate students to fundamental principles of immunology and microbiology. This overview includes discussions of the interplay between the microbial pathogen and the host immune response during the infectious process. Representative microorganisms belonging to each class of pathogen (bacterial, viral, fungal and parasite) are discussed in addition to infectious disease, public health and epidemiology, vaccines, cancers with an infectious etiology, and eradication of disease.
3 credits
In-Person

BIOM 513 — Human Anatomy 2
This course continues the learning in BIOM 503 and provides a comprehensive consideration of the human anatomy as it relates to function in order to provide the anatomical component of diagnosis and treatment. Course objectives include the demonstration of anatomical structural knowledge of all systems in the human body, including musculoskeletal, neuronal, lymphatic, respiratory, cardiovascular, digestive, urinary and reproductive. Emphasis is placed on structural relationships and functional correlations. A laboratory component utilizing cadaveric specimens will assist with integration of structural relationships from a 3D perspective.
2 credits
In-Person

BIOM 600G — Critical Analysis of Research
This course is designed to enhance and promote critical analysis and communication of scientific findings. Students enrolled in the thesis track will meet on a bimonthly basis for one hour. In the first part of the year, students will present and carefully analyze the results of a scientific article. In the later part of the year, students will present the results from their individual research projects. All students are expected to attend and participate in presentations and discussions of research findings. The purpose of this experience is to augment the student's skills and competencies specific to the successful completion and presentation of their thesis research requirement for completion of the MS Degree.
1 credits
Hybrid

BIOM 601 — Introduction to Pathology
The course provides a systematic approach to the pathological basis of medicine. The course begins with an overview of cell injury, death, adaptation, repair and regeneration. It continues with a survey of the dermatological, skeletal, neurological, endocrine, immunological, cardiorespiratory, vascular, gastrointestinal, renal, urological and reproductive systems.
3 credits
OnLine

BIOM 601M — Introduction to Pathology
The course provides a systematic approach to the pathological basis of medicine. The course begins with an overview of cell injury, death, adaptation, repair and regeneration. It continues with a survey of the dermatological, skeletal, neurological, endocrine, immunological, cardiorespiratory, vascular, gastrointestinal, renal, urological and reproductive systems.
3 credits
OnLine

BIOM 602 — Seminar
This course focuses on the presentation of recent literature published in refereed journals. Emphasis is placed on developing basic skills in communicating scientific studies; critical review of literature including research design, data interpretation; and recognition of the relationship of previously published studies with the student's current work.
3 credits

BIOM 602G — Infection and Immunity
5 credits
In-Person

BIOM 602M — Introduction to Pharmacology
This course provides students with a broad survey of the basic principles of pharmacokinetics, pharmacodynamics and pharmacotherapeutics. This course reviews the mechanism(s) of action, toxicities and interactions of specific drugs and drug classes.
3 credits
In-Person

BIOM 603G — Concepts in Pharmacology Toxicology
This course introduces the student to major concepts used in the study of pharmacology and toxicology. It focuses on drugs used in autonomic and cardiovascular pharmacology and toxicology. The course utilizes a lecture format and several laboratory sessions, one of which involves the use of the patient simulator in the clinical learning laboratory.
3 credits
In-Person

BIOM 604G — Nutritional Biochemistry
This course introduces the student to the foundation of nutrition as it impacts biochemical pathways within the body. This course applies a competency- based approach in which an emphasis is placed on student presentation and active participation in the classroom. Final course evaluation is based on the effectiveness of the student's classroom participation, prior preparation based on classroom outcomes and a final project that requires the student to design an experimental investigation of a topic of his or her own interest and then to apply his/her knowledge base by developing and generating an appropriate NIH-style grant proposal.
3 credits
In-Person

BIOM 605 — Global Regulatory Requirements of Quality
This course is focused on "why" global regulations were adopted, and the evolution of the quality systems grounded in science.
3 credits
OnLine

BIOM 606G — Analytical Reading, Molecular Reading
The focus of this course is on the elaboration of molecular mechanisms in the current literature. This course requires directed readings and presentations of the current literature, exposing students to high-impact areas of the biomedical sciences and enhancing critical reading and public speaking skills.
1 credits
Hybrid

BIOM 607G — Independent Study/Scientific Composition
This course is a graded three term sequence that is a guided independent study in which the student explores the biomedical science basis for health/medical conditions and syndromes that present in the clinic. Under the supervision of a graduate faculty member, the student is required to read and compile current scientific literature on the clinical condition chosen and write a major review article. Students will be required to present their topic in a formal presentation to the program faculty and their class peers. In addition to the presentation, the student must complete a written manuscript that adheres to scientific publication standards. Enrollment in this course requires approval of the program director and identification of a faculty mentor. Course may be substituted for BIOM 650G.
1-5 credits
In-Person

BIOM 608G — Advanced Topics in Molecular Biology
1-4 credits
In-Person

BIOM 609G — Biostatistics & Epidemiology
3 credits

BIOM 610G — Medical Immunology
The course is designed to provide the student with an understanding of the cellular and molecular basis of the immune response, and the role of the immune system in health and disease. Additional topics will cover immune- mediated pathological processes, tumor immunology and autoimmunity.
3 credits
In-Person

BIOM 611 — Vaccines and Immune Therapies
Vaccination is perhaps the most successful medical technological intervention. The goal of this course is to expand on students' general understanding of the immune system, and to focus this understanding towards the application of modern vaccines and immune therapies in the 21th century. The course will provide the student a sense of how these principles are applied to vaccine and immune therapeutic development. The course covers basic vaccine science and describes how this science is translated through clinical, regulatory, ethical, and political issues to result in a final vaccine product. The courses' goal is to leave the student with an understanding of the implications of modern vaccines/immunotherapies and their impact on world health.
4 credits
OnLine

BIOM 611G — Medical Microbiology
This course is designed to provide the student with the basic principles of medical microbiology and infectious disease. Emphasis will be placed on the identification, recognition and pathogenesis of the major medically relevant microorganisms including bacteria, viruses, fungi and parasites. Additional topics will include physiological and epidemiological factors contributing to human infectious disease and an introduction to antimicrobial agents. Note: Medical Immunology and Medical Microbiology as a sequence replace the former second year first term course Immunity and Infection BIOM 602G.
4 credits
In-Person

BIOM 612G — Historical Development of Current Themes in Biomedical Research
The focus of this course is the historical development of current and important research trends through the tracking of an idea or concept from its origins in the original scientific literature to the current applications in cutting edge research. The purpose is for the student to gain an appreciation of how the development of ideas and concepts is essential to the investigation and better understanding across different areas of science. This course requires directed readings and presentations of the current literature, exposing students to high impact areas of the biomedical sciences and enhancing critical reading and interpretation of scientific literature as well as public speaking skills.
1 credits
Hybrid

BIOM 613G — Molecular Genetics
The goal of this course is for the student to develop a deeper understanding of the molecular biology techniques introduced in earlier courses. The material will focus on understanding the molecular genetic tools that are having a tremendous impact on medicine. Specific topics will include various types of cloning, gene transfer, methods to study gene expression at the mRNA and protein levels, microRNAs and other recent developments. Prerequisite: BIOM 558G
3 credits
Prerequisites: BIOM 558G
In-Person

BIOM 614G — Developmental Neuroscience
This course has the goal of providing students with a solid foundation in developmental neuroscience. The student is required to integrate findings from anatomical, cellular, molecular and genetic approaches. Topics covered will include neural induction, regionalization of the neural plate and neural tube, neurogenesis, gliogenesis, cellular determination and differentiation, migration, growth cones and axon pathfinding,dendrite formation, programmed cell death, synapse formation and elimination, critical periods and developmental plasticity. Students are required to have a basic knowledge of cell biology and neuroscience before attempting this course.
3 credits
In-Person

BIOM 615G — Biomedical Bases of Medicine
This course is an advanced graduate-level study of problem-based physiology. 8 clinical cases will be presented and discussed which will provide an interdisciplinary and integrated understanding of some common disease states by exploring not only the important physiological concepts, but also the pathophysiology that leads to the development of specific clinical presentations and progression of the disease process. In addition, appropriate clinical and therapeutic interventions will be discussed as a means to introduce students to the theory and practice of clinical medicine. After successful completion of this course, the student will be able to appreciate the complexity of clinical scenarios and as well interpret information across multiple organ systems.
3 credits
In-Person

BIOM 616G — Experimental Design and Data Analysis in Biomedical Research
This course is intended to provide basic training to students about how to start a biological research study with a reasonable experimental design and to apply best practices in data analysis at the end. This course will use examples from molecular biology,electrophysiology and imaging studies to explain how to adopt most currently accepted methods in experimental design and data analysis. Students enrolled in this course are required to have a prerequisite understanding of basic statistics.
2 credits
In-Person

BIOM 617 — Business for the Sciences
An introduction to basic business principles for students with a background in biology and other life science fields.
3 credits
OnLine

BIOM 617G — Human Virology Biology
This course is a discussion- and debate-based review of current topics in stem cell biology and the uses of stem cells in medicine and biotechnology. Topics include review and discussion of cell biology, developmental biology, molecular biology and genetics; stem cell characteristics and preparation; clinical applications and therapeutic uses of stem cells and tissue engineering; and regulatory and ethical issues. Current peer-reviewed literature provides up-to- date information for classroom discussion.
3 credits
In-Person

BIOM 618G — Epidemiology
This course introduces the student to basic principles of epidemiology as applied to biomedical research, design and critical reading of the scientific literature. The student is expected to develop ability to use these basic principles to perform simple epidemiologic analysis and to interpret studies reported in the current scientific research literature. The students are required to identify measures of disease frequency and excess risk and apply these in the context of epidemiologic questions and problems. Students are also asked to interpret and apply the calculation and application of screening test utilities. Students are expected to master concepts including, but not limited to, morbidity and mortality measures, incidence, prevalence, attack rate, relative risk, odds ratio, positive and negative predictive value, sensitivity and specificity. This course, in sequence with the new first year course Biostatistics (BIOM 559G), replaces the 3 credit course BIOM 609G – Biostatistics and Epidemiology (formerly BIOM 552G)
2 credits
In-Person

BIOM 619G — Medical Microbiology Method Practicum
This course covers basic concepts of microbiology with emphasis on sterile techniques,staining, antibiotic susceptibility testing, isolation and identification of pathogenic microorganisms. As a final learning outcome, students are required to apply his/her acquired knowledge and skills to successfully identify a mixture of two unknowns. This course is the competency-based section of BIOM 611G Microbiology and BIOM 610G Medical Immunology course sequence, and students are registered in conjunction with BIOM 611G. Registration for this course as a separate component or registration for BIOM 611G without this competency-based component requires the approval of the program director.
1 credits
In-Person

BIOM 620G — Human Viruses Vaccines and Infectious Diseases
This course is designed to build upon basic molecular genetics principles in order to familiarize the students with the related principles of virology, including structure, biology, replication, pathogenesis and host-cell interactions. The mechanisms of viral adaptation will be utilized as real-time applications of mutation to see how these can be exploited to predict the severity of viral outbreaks and the development of drug resistance. Students will gain an appreciation for the population genetics of infectious diseases, while the control and prevention of infection is a theme that will be discussed throughout the course. Finally, the development of the host innate immune system and viral counterstrategies will be examined. This course is designed to complement the fundamental concepts introduced in Molecular Genetics (BIOM 613G) and Epidemiology (BIOM 618G). Students should successfully both BIOM 613 G and BIOM 618 G before enrolling in this course. Student who have not completed Molecular Genetics and Epidemiology can only register for BIOM XXX G with the prior approval on the course director and program director.
3 credits
In-Person

BIOM 621G — Computational Neuroscience
This course is designed to provide advanced training to students in the study of neuroscience and electrophysiology using a computational approach. Computational neuroscience is an important method in understanding the information content of neural signals by modeling the nervous system at many different levels. This course will review systemic and cellular neurobiology, basic concepts in biophysics, computer languages. Students will be required to perform electrophysiological recordings, construct biological realistic single neuron or network models using popular simulators, and present their models in both writing and speech. Completion of the course requirements will augment important professional skill sets and competencies for students completing the MS Degree and seeking to continue in many areas of scientific research and diagnostics. Basic knowledge in physics and neurobiology is prerequisite. This course is paired with Advanced Cardiovascular, Pulmonary and Renal Physiology.
3 credits
Hybrid

BIOM 622G — Advanced Cardio Pulmonary Renal Physiology
This course provides advanced training to students in the study cardiac, cardiovascular, pulmonary and renal physiology elaborating on the ideas of how neural/hormonal feedback mechanisms and local control balance the parameters of pressure volume and cardiac output to adequate insure local and systemic blood flow for the purpose of nutrient delivery and waste removal. Students will explore the complexities of this balance through the examination of physical performance and pathophysiologic scenarios as well as analysis of laboratory research data and evidence base medicine cases. Students will be required to present and explain their analyses using both classic physiologic illustration tools and literature graphics. This course is paired with Computational Neuroscience.
3 credits
In-Person

BIOM 623G — Integrative Anatomical Skills
3-4 credits
In-Person

BIOM 624G — Embryological Basis of Disease
This course is designed to provide advanced comprehension of the underlying embryological mechanisms in human development. Students will examine the genetic, cellular, molecular, and environmental mechanisms that contribute to medically relevant malformations, anomalies, defects, and syndrome of major anatomical systems that occur during embryological/fetal life which impact the cardiovascular, neurological, gastrointestinal, urogenital, and head/neck formation. Students will be assigned specific developmental disorders/diseases/malformations and be responsible for discussing and presenting their findings on the assigned topics as individuals and in groups. Over the term, the topics assigned will progress through the major anatomical systems and increase in complexity. The course assumes students have acquired basic knowledge of cell biology and human embryology. Successful completion of Human Embryology is a prerequisite. Enrollment limited to 12 students.
3 credits
In-Person

BIOM 625G — Current Challenges in Infectious Diseases
In today's increasingly intertwined world, the epidemiology of infectious diseases is dynamic and challenging. This course will introduce students to the theory of identifying and controlling infectious diseases through a study of various pathogens such as Ebola, HIV, Avian Influenza, SARS, MERS, Zika and COVID-19 (among others). Using examples, students will develop an appreciation of disease transmission, epidemiology, the importance of surveillance and outbreak investigation in prevention and control, along with a range of disease control strategies implementable at the individual, local and national levels. Topics of particular note will be those diseases of pandemic potential and an analysis of the factors and activities necessary to reduce their occurrence. A student who has not completed BIOM 618G Epidemiology can only register for this course with prior approval of both the course and program directors.
3 credits
Prerequisites: BIOM 618G
In-Person

BIOM 626G — Neurobiology of Disease
3 credits
OnLine

BIOM 628G — Topics in Global Health
This course will give students an overview of major causes of global morbidity and mortality, particularly in third world countries. The course will consist of a combination of lectures and student group presentations. Lecture topics may include: Major Causes of Morbidity and Mortality in Third World Countries, Societal and Economic Impact of HIV/AIDS in Third World Countries, Global Aspects of Malnutrition and Infant Mortality, Global Impact of Malaria and TB, Health Challenges in Refugee Camps, Health Impacts of War and Natural Disasters, Emerging Infectious Diseases.
3 credits
In-Person

BIOM 629 — Product Development and Validation
This course covers commercial product development in the life sciences and is divided into 3 parts: pharmaceutical validation, medical device design controls, and emerging technology (such as 3D printing, cell/gene therapy, and artificial intelligence).
3 credits
OnLine

BIOM 629G — Advanced Gastrointestinal and Endocrine Physiology
This course provides advanced training to students in the study gastrointestinal and endocrine physiology comprehensively elaborating on the basic information presented in the first year to establish an application-based understanding of the relationship between structural and secretory defects and their effects on nutrition and health.
The gastrointestinal section of the course focuses on ideas of how neural/hormonal feedback mechanisms and local control balance gastrointestinal function for the purpose of nutrient delivery and waste removal. Students will explore the complexities of this balance through the examination of diet and pathophysiologic scenarios as well as analysis of laboratory research data and evidence base medicine cases. For the endocrine portion of the course, focus is placed on the relationship of hormonal function and control as they apply to both the treatment of and life impact of a variety of classic endocrine disorders Students will be required to present and explain their analyses using both classic physiologic illustration tools and literature graphics. This course while independent in its own right the second course in a two part series covering advanced topics in classic medical physiology.
3 credits
In-Person

BIOM 635 — Risk and Failure Analysis
This course introduces students to the investigation processes and writing scientifically justified conclusions linked to true root cause. This course is divided into 2 parts: how to design risk out of your product to begin with, and how to investigate failure if/when it occurs.
3 credits
OnLine

BIOM 640 — Life Science Innovation
This course is open to students interested in learning how to commercialize new technologies. Teams of science and business students will work with inventor-scientists at the Wistar Institute--as well as with external partners such as venture capitalists, intellectual property lawyers, and biotechnology entrepreneurs--to develop proposals on the scientific merit and commercial feasibility of life science research projects.
4 credits
OnLine

BIOM 643 — Bioinformatics
This course is an introduction to using computational methods to analyze datasets in biology.
3 credits
OnLine

BIOM 650G — Special Topics in Biomedical Science Research and Methods
This course is a graded three term sequence that is a guided independent study in which the student explores an area of interest in either Biomedical Sciences Research or Methods. The course requires a topic selection to be approved by a mentor/instructor. Students are expected to complete a thesis-style paper of twenty-five pages or more which can be a review, project proposal, grant application, etc. (any proposals require paperwork for appropriate regulatory committees); minimum of 75 citations/references, graded presentation, scheduled weekly meetings with faculty mentor; and competency-based testing and assignment completion. Students may enroll in this course only through the approval of the Program Director. Course may be substituted for BIOM 607G.
1-4 credits
In-Person

BIOM 651 — Pre-Thesis Lab Work
1st and 2nd year work done in a student's chosen thesis lab. 1st year: 3 credits 2nd year: 6 credits
3-6 credits
In-Person

BIOM 652 — Thesis Research
Research performed in a student's thesis lab to generate data for their thesis.
9 credits
In-Person

BIOM 653 — Cancer Biology
This is a survey course covering the pathology, cell and molecular biology of cancer and oncogenesis.
3 credits
In-Person

BIOM 654 — Cancer Biology Lab Rotation
Introductory lab work for pre-doctoral students.
3 credits
In-Person

BIOM 655 — Cancer Biology Journal Club
Presentations and discussion of current literature in the field.
0-1 credits
In-Person

BIOM 678 — Scientific Communication Skills
TBA
1 credits
In-Person

BIOM 681 — Research Proposal
This course introduces the student to literature review, hypothesis generation, and research design. The student will form a partnership with a research mentor and thesis committee. Working with the mentor, the student develops a written research plan which must be approved by the committee and program director. If the project requires clearance by any regulatory board (IRB, IACUC, etc.), this course is considered “in progress,” and no grade is issued until such authorization is secured.
1 credits

BIOM 682G — Research Proposal
1 credits
In-Person

BIOM 682M — Research Proposal
1 credits

BIOM 683 — Thesis Manuscript Development
The student demonstrates mastery of his or her area of research by writing a viable draft of the thesis manuscript comprising abstract, introduction, background, materials and methods, results, discussion and literature cited. The draft is submitted to and approved by the thesis committee, who schedules the thesis defense in conjunction with the program director. Prerequisites/Corequisites: BIOM 681, BIOM 682, BIOM 693.
2 credits
Prerequisites: BIOM 681, BIOM 691
In-Person

BIOM 683G — Thesis Manuscript Development
1 credits
In-Person

BIOM 683M — Thesis Manuscript Development
No Description?
1 credits
In-Person

BIOM 685 — Thesis Defense
The candidate demonstrates mastery of his or her area of research, and biomedical research in general, by delivering a public, seminar-format presentation before the faculty and College community. The audience may question the candidate on matters pertaining to the project and related studies. After the public session, the defense continues with the thesis committee discussing both with the candidate and in private matters that may need to be resolved before the final thesis can be submitted. Prerequisites/Corequisites: BIOM 683, BIOM 693.
2 credits
Prerequisites: BIOM 692

BIOM 687 — Thesis Completion
The candidate revises the written thesis as required by the thesis committee and library guidelines, secures committee approval, and submits the thesis in its final form to the program director, who will then recommend the candidate for degree conferral. This course is considered "in progress" and no grade issued until the final thesis is submitted. At the end of each term that the thesis is not submitted, the candidate must develop an action plan in consultation with the thesis committee and program director; additional fees may be incurred. Thesis status cannot be registered after thesis has been defended. Prerequisite/Corequisite: BIOM 685.
1 credits
Prerequisites: BIOM 692
In-Person

BIOM 687G — Thesis Completion
1 credits
In-Person

BIOM 690 — Research Methods
This course introduces students to fundamental concepts of epidemiology and research design in health and disease. Principles of evidence-based medicine are discussed as they relate to key areas of disease prevention, health promotion and therapy discussed. Community-based issues, problems and solutions are addressed. Students who complete the course will be able to understand and apply basic statistical terms and applications as well as various research design models that appear in current medical literature. Students learn to assess the quality of medical literature research designs to study commonly encountered clinical and community issues. Students will learn to describe the relationship between the medical literature and evidence-based medicine.
1-3 credits
Prerequisites: BIOM 691
Hybrid

BIOM 691 — Biomedical Research
The student undertakes mentored research leading to the degree of Master of Science in Biomedical Sciences. Students learn lab techniques and review the relevant literature with the goal of understanding not only the "how" but the "why" of their project.If the project has met all regulatory requirements, data collection may commence. This course may be taken in one or more terms for up to seven total credits, and includes at minimum one meeting of the full thesis committee per term.
1-8 credits
Prerequisites: BIOM 501, BIOM 502, BIOM 503, BIOM 504, BIOM 505, BIOM 506, BIOM 507

BIOM 691G — Biomedical Science Research
Supervised individual research projects undertaken by students in the program leading to the degree of Master of Science in Biomedical Sciences.
1-8 credits
In-Person

BIOM 691M — Biomedical Research
1-8 credits
In-Person

BIOM 692 — Biomedical Research
The student continues mentored research leading to the degree of Master of Science in Biomedical Sciences. This course may be taken in one or more terms for up to nine total credits, and includes at minimum one meeting of the full thesis committee per term. Prerequisites: BIOM 501, 502, 503, 504, 505, 506, 507, 681, 690, 691.
1-8 credits
Prerequisites: BIOM 681, BIOM 690, BIOM 691

BIOM 692G — Biomedical Research
Supervised individual research projects undertaken by students in the program leading to the degree of Master of Science in Biomedical Sciences.
1-8 credits
In-Person

BIOM 693 — Biomedical Research
Mentored research that brings the project to a conclusion as approved by the thesis committee, such that it may be presented in written and oral form. This course may be taken in one or more terms for up to nine credits per term, and includes at minimum one meeting of the full thesis committee per term. Prerequisite: BIOM 692.
1-10 credits
Prerequisites: BIOM 692

BIOM 693G — Biomedical Research
Supervised individual research projects undertaken by students in the program leading to the degree of Master of Science in Biomedical Sciences.
1-8 credits
In-Person

BIOM 694 — Biomedical Research
1-9 credits

BIOM 697G — Capstone Continuation
1 credits

BIOM 698G — Independent Study
1-6 credits

BIOM 698M — Directed Studies

BIOM 699G — Biostatistics Epidemiology
This course is designed to allow students who have not completed their thesis during the normally allotted time to register and complete their thesis.
3 credits
In-Person