The goal of the Immunology Core Course is to correlate what the students are learning in their required First Year Graduate classes with an immunologically relevant topic or technique. The sessions are formatted in a manner such that a student, backed up with the expertise of the faculty leader, can present either a classic or new paper from the literature. In some cases the sessions will consist of demonstration or problems sets.

ME.250.714. HIV Biology. 0 Credits.
This course will review clinically relevant aspects of HIV biology including the discovery of HIV, the steps in the HIV life cycle, the dynamics of HIV replication in vivo, HIV pathogenesis, the immune response to HIV, the pharmacology of antiretroviral drugs, and the statues of efforts to cure HIV infection and develop an HIV vaccine.

ME.250.716. Innate Immunity. 0 Credits.

ME.250.717. Control of Lymphocyte Apoptosis. 0 Credits.

ME.250.719. Tumor Immunology & Immunotherapy. 0 Credits.
This graduate level advanced course focuses on the role of the immune system in cancer biology. It will expand upon basic immunologic principles to discuss the importance of the immune system both as a protector from and a cause of cancer. It will be explored in a faculty-led seminar format. This course is appropriate for graduate students, postdoctoral fellows and research staff/scientists.

ME.250.721. Fundamentals of Immune Recognition. 1 Credit.
This will be an introductory course in Immunology intended for first year graduate students. The emphasis is to provide entering graduate students with a basic foundation in immune cell development, recognition and response. This course will form the basis for more advanced coursework in immunology as well as prepare students for in-depth discussions of the field encountered in seminars, journal clubs and in the laboratory setting.

ME.250.722. Autoimmunity. 1 Credit.

ME.250.723. Immunometabolism. 0 Credits.
Immunometabolism is emerging as an important component of immune cell regulation. Starting with understanding Warburg physiology the Course will examine key findings in this rapidly evolving field as they relate to basic immunology, autoimmunity, transplantation and immunotherapy for cancer.

ME.250.724. Translational Immunology. 1 Credit.
This graduate level advanced course focuses on the role of the immune system in human health and disease. It will expand upon basic immunologic principles to discuss the importance of the immune system both as a protector from and a cause of disease. Organ specific immune responses, human immune knockouts, and immune responses occurring in the setting of disease will be explored in a paired lecture and journal club format. This course is appropriate for graduate students and postdoctoral fellows who have completed a graduate level course in immunology.

ME.250.725. Immunology Forum. 1 Credit.
The course will cover concepts in innate and adaptive immunity at the contemporary forefront of research at the molecular, cellular, organismal, and human population levels. Subject matter will include basic, translational, and engineering-focused immunology.
ME.250.780. Information Sources & Search Techniques for informatics Professionals. 1 Credit.
As a professional in the health informatics field, you will need to be able to stay current on key topics related to your profession, find evidence to solve informatics problems that cross the disciplinary boundaries of health, computing, and human factors, and contribute publishable papers to the body of informatics scholarship. This course will introduce you to the foundation and skills that you will need to engage in these research endeavors. You will learn about the biomedical sources available to you and how to efficiently and effectively search these sources. You will also learn techniques for evaluating what you find from these sources and what tools to use for storing and managing this information. The course will also address issues in the research field including how open access impacts your work as a scholar and consumer of research. Finally, you will gain the tools for establishing yourself as a professional and staying current in your field.

ME.250.804. Introduction to Immunology Research (Parts I and II). 1 Credit.
This course is designed to expose our first year students to the wide array of Immunology research that is offered here at Johns Hopkins. The course consists of two parts: Part 1. "Chalk Talks" A series of talks by the Immunology faculty to learn about research activities. Part 2. "Immunology Journal Club (IJC)" Created to provide them with an arena for reading and discussing journal articles with their peers. The purpose of the IJC is to help students develop the habit of reading a wide variety of immunology journal articles early and throughout the graduate career.

ME.250.861. Health Science Informatics Research Methods I. 3 Credits.
This course introduces students to the principles of health informatics research design and methods. Topics covered include: identifying health informatics research domains, designing informatics research, selecting appropriate informatics methods, integrating data science in research, and conducting literature reviews.

ME.250.862. Health Sciences Informatics Research Methods II. 3 Credits.
This course introduces students to health informatics research methods and processes. Topics covered include: understanding clinical data and knowledge, reviewing specialized health informatics research topics, and conducting a quantitative informatics research project.

ME.250.863. Health Sciences Informatics Research Methods III. 3 Credits.
This course introduces students to advanced health informatics analytic methods. Topics covered include: understanding statistical methods used for health informatics research, conducting an advanced analytic project using complex clinical data repositories, and explaining the informatics challenges in the analytic process.

ME.250.864. Health Sciences Informatics Research Methods IV. 3 Credits.
This course introduces students to scientific dissemination methods and career development in health informatics research. Topics covered include: authoring informatics research manuscripts for publication, preparing informatics research grants, and career development options and strategies.

ME.250.958. Digital Health Innovation & Regulatory Science. 1 Credit.
From smartwatch apps and telehealth to the use of artificial intelligence (AI) and machine learning (ML) on big data, digital health is shaking up the health care industry. These tools promise to revolutionize how patients and healthcare providers access health data. In some cases, digital health tools will even diagnose and treat diseases. For all its potential, digital health is not without risks, though. There must be adequate legal, quality, and safety protections to ensure responsible and high-quality innovation. This course will introduce students to the rapidly evolving field of digital health regulation and the role of the FDA, FTC, OCR, and other legal and regulatory bodies in this space. At the end of this course, students will be able to: Define key terminology relevant to the fields of digital health innovation and medical device regulation. Discuss the relationships between regulators, technology developers, healthcare providers, and patients. Describe the requirements for digital health technology to be considered Software as a Medical Device (SaMD) by the FDA Identify the various regulatory pathways for SaMD and the main considerations.