

Human Science (HSCI)

HSCI 1000 Human Body Systems 3 Credits

This course introduces students to the fundamental structure and function of the human body through an integrated examination of major organ systems. Students will explore basic anatomical organization and physiological processes, learning how different systems work together to maintain homeostasis in the healthy human body. The course emphasizes foundational concepts in human biology, including cellular processes, tissue organization, and organ system interactions. Through didactic lectures and interactive case studies, students will develop a comprehensive understanding of normal human physiology while gaining exposure to common pathological conditions that illustrate key physiological principles. Students will have the opportunity to conduct an in-depth exploration of a specific health condition or disease, allowing them to apply course concepts and develop research and communication skills. By the end of the course, students will possess a solid foundation in human health and disease that will allow them to be conversant in the terminology associated with health care.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 1030 Human Biology I 0 or 4 Credits

A series of lectures and laboratory experiences devoted to anatomy and physiology of the human are presented. Basic biological principles are introduced and the integrative systems of the body are also studied. Three lecture hours and one three-hour laboratory.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 1040 Human Biology II 0 or 4 Credits

A series of lectures and laboratory experiences devoted to anatomy and physiology of the human are presented. The circulatory, respiratory, digestive, excretory, and reproductive systems are studied in detail. The laboratory experience is primarily centered around a semester long cat dissection. Three lecture hours and one three-hour laboratory.

Level: Undergraduate

Prerequisites: (HSCI 101 or HSCI 1030)(CHEM 001 or CHEM 1100) or HSCI 110)(CHEM 002 (may be taken concurrently) or CHEM 1200 (may be taken concurrently)) or (HSCI 111 (may be taken concurrently) or HSCI 1110 (may be taken concurrently))

Grading: Main Campus (UGrad, Grad)

HSCI 1110 Biochem Human Functioning 3 Credits

This is a one semester biochemistry lecture non-laboratory course primarily intended for undergraduate nursing major. It is also suitable for other students who desire a one semester biochemistry survey course with human clinical applications. HSCI-111 will not fulfill pre-medical, pre-dental or graduate school requirements for a laboratory biochemistry course.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the Sch. of Nursing Health Stud. college.

HSCI 1600 Hlth Promotn/Disease Preventn 3 Credits

This course provides an introduction to the theory and application of health promotion principles. Current issues and controversies in health promotion will be discussed. Students will utilize evidence-based skills and methodologies to conduct a community needs assessment as an outcome of the course.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Human Science, Human Science, Human Science or Human Science.

HSCI 1780 Res Theory Com in Sci HlthCr 3 Credits

This course is designed to introduce students to the theories of quantitative and qualitative research, with a focus on biomedical science. It aims to establish a conceptual foundation for the practice of research. Examples from research in the basic sciences, clinical practices, behavioral health, and health systems will be used to explore this objective. This course will also introduce fundamental practices in communicating science through formal presentations and writing exercises.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Human Science, Human Science, Human Science or Human Science.

HSCI 1830 Intro to Behavioral Science 3 Credits

This course is a general introduction to the theoretical perspectives that frame social science research today. Designed for Human Science students, this course will acquaint students with the psychological and sociological foundations of behavior that are now recognized to be essential for a career focused on human health. This course is unique in that it offers integrated introduction to the theoretical traditions from sociology and psychology while demonstrating how findings and insights from these fields pertain to the science, practice and distribution of human health and healthcare. There are four main topics. Each topic will 1) introduce students to the classic literature and seminal works associated with each topic and 2) demonstrate the relevance of behavioral science to health-related issues through exposure to contemporary empirical studies focused on health and health care issues today.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 1850 Genomics, Health Society 3 Credits

This course is designed to introduce basic principles of genomics including central principles of clinical and translational genetics and genomics and to reflect on the impacts of this field on society. The student will learn about classical Mendelian disorders, chromosomal abnormalities, as well as the role of genetics in common complex diseases. Upon completion of the course, the student will have an understanding of genetics, the application of genomics in health, and an appreciation of the societal implications of genomics.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 2010 Microbiology 0 or 4 Credits

A series of lectures and laboratory experiences devoted to the pathogenic bacteria and viruses of humans. The mechanism of pathogenicity, the clinical picture of the disease, prophylaxis, and therapeutic are discussed. The laboratory experiences include identification of pathogens in sputum, spinal fluid, blood, urine, and stool cultures. Aseptic technique is stressed in the laboratory. Three lecture hours and one three-hour laboratory.

Level: Undergraduate

Prerequisites: (HSCI 101 or HSCI 1030) and (HSCI 102 or HSCI 1040)

Grading: Main Campus (UGrad, Grad)

HSCI 2020 Pathophysiology 3 Credits

This course provides foundational knowledge which a health care professional needs to understand illness, its manifestations in a person, the anatomical and physiological basis for prevention and treatment. Genetics, biological and other agents of disease are discussed. The body's response to disease is examined with an emphasis placed on the inflammatory response. The disorders discussed are representative of those commonly occurring in the population.

Level: Undergraduate

Prerequisites: (CHEM 001 or CHEM 1100) or (HSCI 111 or HSCI 1110) and (HSCI 101 or HSCI 1030) and (HSCI 102 or HSCI 1040)

Grading: Main Campus (Pass/Fail)

Course registration restrictions:

Enrollment limited to students in the Sch. of Nursing Health Stud. college.

HSCI 2050 Group Dynamics in Hlth Promo 3 Credits

This interactive, experiential seminar course is offered for 3 credit hours, and will examine the influences, environments, skills, and concepts that lead to healthy, pro-social behaviors and community formation among college students. In this course we examine and apply theories of teamwork, leadership skills and behaviors, individual and group identity formation, human development, and group dynamics on the processes of health promotion in the college and university setting. This course will use the following methods of learning: case studies, team challenges, individual and group problem solving, community-building circle, field trip, interviews, observation, and reflection. Topical discussions may include: mental and emotional health, alcohol and substance use behaviors, healthy interpersonal relationships, nutrition and food access, and many others. Students will learn conceptual and concrete strategies to improve teamwork experience and performance. Students are encouraged to bring their scholarly and personal interests to the discussion and application of group dynamics in the modern university setting.

Level: Undergraduate

Prerequisites: (HEST 013 (may be taken concurrently) or HSCI 015 (may be taken concurrently)) and (HSCI 101 or HSCI 1030) and (HSCI 102 or HSCI 1040) and HSCI 175

Grading: Main Campus (UGrad, Grad)

HSCI 2220 Crisis Mgmt in College Health 3 Credits

This multidisciplinary seminar course will examine emergency preparedness and response from a college community perspective. Various types of health crises encountered by the community as well as the individual will be examined. Infrastructure issues will be explored as well as the importance of planning, networking, collaboration, and response. This course will utilize tabletop exercises, public health games and multi-media training exercises to simulate crisis management. This course is part of the Engelhard Project. An Engelhard course is designed to engage students to reflect on student health and mental health issues in ways that enhance and reinforce the content of the course. Connections are made to the issues of health and well being of students enrolled in the course and the University resources available to address the issues. Objectives: At the completion of this course the student will be able to: 1. Describe the emergency preparedness planning process and systems in place to respond to crises. 2. Assess the complexity of responding to individuals in crises and crises within a community. 3. Explore populations at risk for crises. 4. Examine the role of epidemiology in community crisis. 5. Analyze the impact of various types of crises on a campus community. 6. Understand crisis management.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment limited to students in the Sch. of Nursing Health Stud. college.

HSCI 2800 Biochem Molec/Cell:Hlth Dis 0-4 Credits

This course will build upon concepts learned in prerequisite courses in chemistry and human biology, aiming toward a deeper understanding of the biochemical, molecular and cellular processes that underlie human health and disease. It will prepare the student for advanced study in genetics, cell biology, biochemistry and immunology. Topics include structure, function and kinetics of macromolecules, cell structure, membranes and compartmentalization, signaling, growth control, and cell organization and interaction. Each topic will be presented with emphasis on its explanatory value with respect to disease states and therapeutic approaches. In the laboratory, students will learn experimental techniques in biochemistry and molecular cell biology and gain experience in reading and writing scientific articles. Course Objectives This course will improve students' abilities to: 1. Describe the parts of a cell, how they work and understand the limits of our current knowledge. 2. Discuss the molecular mechanisms of diseases and how knowledge of normal molecular cell biology and biochemistry enables us to understand disease and develop potential therapies. 3. Discuss how molecular cell biologists ask and answer questions experimentally. 4. Analyze scientific data accumulated in the laboratory and recorded in the laboratory notebook. 5. Communicate science in the format of a scientific paper.

Level: Undergraduate

Prerequisites: (HSCI 101 or HSCI 1030) and (HSCI 102 or HSCI 1040) and (CHEM 001 or CHEM 1100) and (CHEM 002 or CHEM 1200)

Grading: Main Campus (UGrad, Grad)

Mutual exclusion: HSCI 310

HSCI 3080 Evidence of Wellness 3 Credits

Much of what we know about daily aspects of wellness is based on anecdotal or limited evidence. Wellness is optimal quality of life; being healthy in body and mind. What exactly is the evidence of wellness and how does one analyze the data that exists? What additional data would we want to know and how can that be accomplished? This requires input from multiple disciplines and knowledge of different levels of evidence and research. This course will provide students with the knowledge of the existing evidence, how to interpret this evidence and afford them the expertise to evaluate new data in the future. Students will regularly analyze manuscripts and will have good working knowledge of the following statistical terms; number needed to treat, number needed to harm, confidence intervals, relative risk, odds ratio, among other terms commonly used in the medical literature.

Level: Undergraduate

Prerequisites: (MATH 040 or MATH 1040) or (HSCI 178 or HSCI 1780) or (GLOH 177 or GLOH 1177) or (HESY 184 or HESY 2004)

Grading: Main Campus (UGrad, Grad)

HSCI 3090 Immunology 3 Credits

The field of immunology studies how the body distinguishes between what is self and what is non-self. Although we are accustomed to thinking about immunology with respect to pathogens and disease, the function of the immune system in fighting microbes is really a manifestation of its fundamental role as a system whereby the body knows itself. Throughout our lives, the immune system gathers and interprets information about the body. When something is not right, whether it is due to a microbial pathogen, or traumatic tissue damage, or cells growing abnormally to become a tumor, or the presence of transplanted foreign tissue, our immune system is activated to try to restore homeostasis. When it malfunctions it contributes to disease. In this course, we will learn the basic principles governing the functioning of the human immune system. The first few lectures will refer to the immune response to microbial infections. Defense against infection was the first function of the immune system to be recognized and is the best understood. Infection makes a story that has a beginning, middle, and end, and you should be able to tell that story about half way through the course. Once we learn how the cells and molecules work together to fight infection, we will then be able to consider them with regard to allergens, venoms, blood transfusions, tissue transplants, autoimmune diseases, cancer, immunodeficiency and vaccinations.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Human Science, Human Science, Human Science or Human Science.

HSCI 3100 Intro to Qualitative Research 3 Credits

Qualitative research can provide rich context and insight into the patient and health care provider experience and other health phenomena through focus groups, in-depth interviews, and other methods. In the field of health, qualitative research can be incorporated into needs assessments, health promotion program development and planning, and clinical quality improvement efforts, among other initiatives. This 3 credit-hour Introduction to Qualitative Research Methods will introduce students to differences in quantitative and qualitative research, with a focus on exploring qualitative research including appropriate applications, developing a qualitative research question, data collection methods including tool development, as well as qualitative data analysis and interpretation. These activities and concepts will help prepare students to incorporate qualitative research into their capstones, understand the presentation of qualitative findings in published scholarly research, and consider applications for qualitative research in their future prospective careers.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 3200 Public Health Nutrition 3 Credits

This course examines the intersection of public health and nutrition with an emphasis on relevance to health professions. Designed for undergraduate students preparing for careers in medicine and related fields, the course explores how nutrition influences health, including relevant policy, programs, research, community-based interventions, assessment methods, food security, and nutrition advocacy. Students will gain an overview of methods for assessing dietary behaviors and nutritional status, practice applying and interpreting nutrition assessment methods, critically evaluating nutrition research, and designing a research study that incorporates nutrition measurement. The course emphasizes critical thinking, evidence-based decision-making, and the role of nutrition in promoting health and preventing disease, and how to communicate nutrition information.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 3210 Sexual Health Issues 3 Credits

This is a survey course that examines the basic foundations of human sexuality, incorporating topical issues of interest and importance. The course will discuss the psychosocial impact of human sexuality on individuals and society. Students are encouraged to develop and maintain a personal philosophy concerning sexual decision-making and behavior. The course will include the biological, developmental, and scientific aspects of human sexuality. One credit of this course is a service-learning requirement. Students will apply what they learn to design and implement a sexual health promotion program for the Georgetown University community.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 3320 Health Impact of the Environment 3 Credits

Health Impacts of the Environment explores physical, chemical, biological and psychological hazards, their impact on human health, and approaches to prevention. The course builds on a scientific foundation of biology and chemistry, introduces the spectrum of disciplines collaborating to address environmental issues, and utilizes teamwork to examine the most urgent topics of the day.

Level: Undergraduate

Prerequisites: (CHEM 001 or CHEM 1100) and (MATH 040 or MATH 1040)(HSCI 178 or HSCI 1780) and (HSCI 202 or HSCI 2020)

Grading: Main Campus (UGrad, Grad)

HSCI 3550 Genetics of Health/Disease 0 or 4 Credits

This course is designed to reinforce basic principles of genetics, and introduce central principles of translational and clinical genetics. The student will learn about both classical Mendelian disorders as well as the role of genetics in common adult disease. Upon completion of the course, the student will have a deep understanding of current genetic information in health and disease. Course Learning Objectives

1. Understand gene and genome structure
2. Understand the basic principles of cytogenetics and diseases related to chromosomal abnormalities
3. Comprehend, interpret and perform basic genetic analyses
4. Recognize and uncover familial patterns of disease inheritance
5. Relate common genetic variation to disease risk, treatment and outcomes
6. Search publicly available databases for information relevant to diagnosis, prognosis and treatment
7. Perform and interpret basic genetic and recombinant DNA analyses from case studies and data generated in the lab
8. Develop written scientific communication through development of scientific reports
9. Develop a moral and ethical framework for understanding and applying genetic information

Level: Graduate, Undergraduate

Prerequisites: (HSCI 101 or HSCI 1030) and (HSCI 102 or HSCI 1040) and (HSCI 310 or (HSCI 280 or HSCI 2800) and (CHEM 001 or CHEM 1100) and (CHEM 002 or CHEM 1200)

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Human Science, Human Science, Human Science or Human Science.

HSCI 3580 Global Worker Safety Health 3 Credits

Decent work is key to achieving the United Nation's 2030 agenda for sustainable development, which requires increased access to jobs that are safe, afford dignity and a fair income, and are free of exploitation. This advanced seminar will use a public health approach to explore the workplace safety and health challenges that face workers throughout the globe, including identifying hazards and the circumstances that drive these hazards, as well as potential interventions and methods to evaluate them. We will identify the strengths and weaknesses of peer-reviewed and gray literature and other sources of information that will frame the selection of weekly readings. Discussions will address safety and health hazards associated with migration, forced labor, and child labor, including examples from artisanal mining, fishing, agriculture, construction, domestic work, and other specific industries. We will review case examples of interventions, such as community based participatory action research and supply chain programs. We will also use this time as a structured opportunity to reflect on personal goals and discernment about how we each incorporate contemplation in action and social justice in the search for vocation.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

HSCI 3590 Translatnl Hlth Sci Intern:Arg 6 Credits

In an increasingly interconnected world, global health challenges can only be met when scientific collaborations also cross borders. On the Translational Health Science Internship program in Buenos Aires, you'll team with Argentine researchers and physicians to study the basic science and clinical effects of viruses that cause respiratory infections in infants, children, and young adults. This highly experiential program will give you access to biomedical researchers and virologists in both the classroom and the laboratory, as well as experience shadowing physicians in pediatric hospitals. This combination of classroom, laboratory and hospital experiences will reveal the ways that scientific knowledge travels "from bench to bedside" - how discoveries made at the genetic and molecular level in the lab can be applied to treatment decisions in the clinical setting.

Level: Graduate

Grading: Main Campus (UGrad, Grad)

HSCI 3660 Appl Epidemiology Pub Hlth 3 Credits

Whether in the clinic, community or laboratory, analytical methods are becoming increasingly ubiquitous in medicine. This quantitative course emphasizes the development of critical thinking skills and the application of theory to explore relevant and pressing scientific questions utilizing real health data. In addition to learning how to interpret and critique scientific findings (whether they be presented in manuscript or media form), students will also gain hands-on experience working with publicly available datasets, learning to code in SAS, and developing their own population health research questions and methods. Utilizing these translatable skills will aid students both academically and professionally as they pursue their career goals and aspirations.

Level: Graduate, Undergraduate

Prerequisites: (MATH 040 or MATH 1040)

Grading: Main Campus (UGrad, Grad)

HSCI 3800 Health Topics in Neuroscience 3 Credits

This course will explore topics in neuroscience as they relate to health. The course will address, as each pertains to structure, function, and dysfunction: cellular neuroscience, development, the motor system, sensation, learning & memory, speech & language, and motivation. Emphasis will be placed on current health impacts of neuropathology via critical analysis and discussion of topical scientific literature. Objectives: 1) Describe the structure and function of major neural networks 2) Explain how disorder in the system results in overall pathology 3) Critically evaluate current scientific literature as it pertains to neuroscience 4) Translate and communicate primary scientific research for an audience of peers

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 3940 Human Science Ind Research 1-4 Credits

Original, independent research in the human sciences; students work directly with professors on the research project.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 4000 Social Determinants Pandemic 3 Credits

The Social Determinants of Health (SDOH) are conditions within the environment that affect a wide range of health, functioning and quality-of life outcomes. These factors include where and how we live, learn, work, play, worship and age. This course exposes students to seminal research papers on five key areas of SDOH surveilled by the Department of Health and Human Services: economic stability, education, social and community context, health care access and the neighborhood and built environment. With this knowledge, students will apply relevant conceptual models towards understanding the social epidemiology, i.e., differential distribution and determinants of COVID-19 morbidity and mortality in sub-populations within the United States (US). Students will also explore interventions and examine bidirectional relationships between social factors and COVID-19.

Level: Graduate, Undergraduate

Prerequisites: (MATH 040 or MATH 1040)

Grading: Main Campus (UGrad, Grad)

HSCI 4190 Environmental Justice 3 Credits

The world we inhabit, including cities, transportation systems, food supply, energy production, and other aspects of modern life are the product of the work of human hands, as are the wastes and hazards produced. Disparate exposures to the hazards and unequal distribution of the benefits of modern life cause injustice that leads to health disparities. This course will explore how to critically explore hazards, develop collaborative solutions using community-based participatory research principles, and evaluate those solutions to promote environmental justice and reduce environmental and occupational health disparities. Students will work in groups in collaboration with community members impacted by environmental and occupational health issues, utilizing the principles of Community-Based Learning. Learning Objectives At the completion of this course, students will be able to: 1. Critically evaluate current scientific methods for studying environmental justice issues. 2. Critique existing national and international efforts to eliminate environmental injustices. 3. Develop a values-based approach for eliminating environmental injustices. 4. Implement community-based participatory research principles to reduce environmental injustices.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 4360 Genome Insibility Human Diseases 3 Credits

Our genome is subjected to multiple insults from endogenous and exogenous environmental sources that disturb its integrity. Cells have developed surveillance mechanisms that recognize and respond to cell and DNA damage including DNA repair, cell cycle checkpoints, and programmed apoptosis. When these pathways are compromised or disrupted, the individual is at risk for genomic instability that can lead to a number of diseases and conditions, including cancer, neurological degeneration, immunodeficiency, premature aging, developmental defects, and infertility. This course will focus on the topic of genome instability and its relation to human disease, providing background and historical development of studies, and focusing on molecular mechanisms of these pathways while incorporating current developments in these areas.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 4500 Occup. Env. Toxicology 3 Credits

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 4510 Physiological Adaptations 0-4 Credits

One of the striking capacities of humans is our ability to adapt to different environments. In this course, we explore this capacity for adaptation to specific conditions of stress, ie, an alteration in a physiological variable determined to be a threat to the organism, with an emphasis on the timeline of such responses. Specific modules and topics highlight mechanisms of adaptation at the systems and cellular levels and will be facilitated primarily through individual student presentations. Additionally, students will hone their skills in scientific argumentation through an iterative writing process in response to several prompts. Finally, students will collaborate in small groups to explore and clarify responses to multiple, simultaneous stresses. The primary resource for this course will be the biomedical literature, accessed through databases such as MEDLINE. OBJECTIVES:

(1) To appreciate the immense adaptability of the human body for habitation in environments with extremes in gravitational, altitudinal, behavioral, and other stimuli. Independent and group-based review of the scientific literature will facilitate such an appreciation. In particular, we will analyze and evaluate the data from the primary literature to support arguments for human adaptation to extreme conditions. (2) To navigate effectively the challenges of collecting physiological data in extreme environments and in obtaining relevant information from terrestrial simulations of extreme environments. In our review of the literature, we will analyze and evaluate the methods and experimental design associated with studies to support arguments for human adaptation to extreme conditions. (3) To transition from traditional didactic learning modes to a self-led exploration of information and data that is specific to each student. You will be challenged to find answers to your scientific questions and, more importantly, determine your position on an issue that is ambiguous in the scientific literature. Additionally, as noted above, you will transition to and gain comfort with scientific knowledge as arguments supported by scientific data. (4) To learn of the benefits to human health and health practice through understanding the results of human adaptation to extreme environments. Theoretical application of such concepts will be demonstrated in a semester-long group project in which you will provide support for physiological phenomena that have yet to be fully understood or explained. The lecture portion of this course will be co-taught by the instructors listed. This is a linked section. Registration in another linked section of this course is required.

Level: Graduate, Undergraduate

Prerequisites: (HSCI 101 or HSCI 1030) and (HSCI 102 or HSCI 1040) and (CHEM 001 or CHEM 1100) and (CHEM 002 or CHEM 1200)

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Human Science, Human Science, Human Science or Human Science.

HSCI 4707 Unsung Receptors 3 Credits

Cellular signaling is at the basis of all biological functions. At the heart of this field are G protein-coupled receptors (GPCRs), membrane receptors that account for the largest gene family in the human genome. These receptors also represent the largest class of "druggable" proteins with ~30% of all currently approved FDA-drugs targeting GPCRs. Moreover, recent discoveries have unveiled novel functions for understudied GPCRs that have shed new light on important physiological processes ranging from blood pressure regulation to wound healing. Using seminal peer-reviewed scientific literature, students in this course will learn the principles of GPCR signaling and their novel functions in health and disease. Topics covered will include opioid receptors as targets for pain management, chemosensors that govern the sensory systems, frizzled receptors that modulate tissue development, and many others. Students enrolled in this course will be expected to utilize critical analytical skills to read, interpret, and present findings from the scientific literature. They will apply these research skills to case studies and learn to effectively communicate their scientific discoveries.

Level: Graduate, Undergraduate

Prerequisites: HSCI 280 or BIOL 151 or HSCI 2800

Grading: Main Campus (UGrad, Grad)

HSCI 4750 Cell Biology of Cancer 3 Credits

Topics in molecular cell biology relating to the cell biology of cancer will be discussed. This upper level undergraduate course builds on concepts introduced in foundational courses in cell biology and will emphasize experimental methods and design, as well as critical data analysis. Students will present papers from the primary literature each week individually or in groups. This course draws on the core themes of organization, molecular evolution, flow of biological information and interdependence and interactions within biological systems. Objectives: This course will improve students' abilities to: 1. Describe our current understanding of the behavior of neoplastic as compared with normal cells 2. Describe the experimental systems and methodologies that have been and are currently used to study the cell biology of cancer 3. Describe unanswered questions within the field of cancer biology 4. Read and interpret primary scientific literature 5. Evaluate scientific data from the literature critically 6. Communicate scientific information in both written and oral formats. What Students Should Know Contact the instructor if you have any questions about this course, e.g. permission to pre-register for students lacking pre-requisite courses.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Equivalent to HSCI 369

HSCI 4949 Tutorial: Human Science 1-3 Credits

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

HSCI 4972 Human Science Sem/Capstone I 3 Credits

Students will work in a university, institution or agency in a field appropriate to their career goals. Together with faculty and a preceptor at the agency, each student will develop a plan with the following essential components: There should be a "product" developed by the end of the internship. This product should be of value to the institution/agency hosting the intern and may take many forms such as: document, poster presentation, national meeting, policy plan, notebook of data, manuscript etc. Class discussions will facilitate the development of a detailed research proposal, data presentation and analysis. Contemporary issues in human science relevant to the internship activities of the class will be discussed in student-led oral presentations.

Level: Graduate, Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Human Science, Human Science, Human Science or Human Science.

HSCI 4973 Human Sci Sem/Capstone II 3 Credits

Course Goals & Description Building upon concepts introduced and skills learned in Internship I, the students will carry out their proposed research and produce both a written research paper and present their research orally to the rest of the Human Science majors at the end of the semester (or other approved time). Class discussions will guide the outlining and drafting of the research paper, the critical evaluation of scientific writing, as well as the delivery of formal oral presentations. Objectives 1. Convey scientific information and ideas orally and in writing. 2. Produce a scholarly report that answers a question/solves a particular problem within Human Science. 3. Develop critical thinking skills making and evaluating specific claims and the acknowledgment and response to anticipated questions. 4. Develop writing skills through the iterative process of planning, drafting and revising under the guidance of a faculty mentor.

Level: Undergraduate

Grading: Main Campus (UGrad, Grad)

Course registration restrictions:

Enrollment is limited to students with a major in Human Science, Human Science, Human Science or Human Science.

HSCI 4998 Honors Thesis

The program recognizes those Human Science majors pursuing a high level of independent discovery research (e.g., laboratory, archival, community, epidemiological) during their undergraduate years culminating in a senior undergraduate thesis as they complete their Human Science major course of study. For the application and more information: <https://health.georgetown.edu/academic-programs/bachelors/bachelor-of-science-human-science/#honors-program-in-human-science>

Level: Graduate, Undergraduate

Grading: Pass/Fail Default