BACHELOR OF SCIENCE IN HEALTH SCIENCE STUDIES

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The Health Science Studies bachelor’s degree program is designed for students entering the School of Health Sciences who have interest in health care/health science related career paths. Upon admission, students choosing this option are assigned to academic advisers who will assist them in designing a customized program to meet their career goals. A strong emphasis on individualized academic advising is at the core of this program.

First-year students are automatically enrolled in a career exploration course to help them increase the breadth and depth of their professional interests. By their second year, students choose between the Clinical Preparation Track, Exercise & Nutrition Track, or the most flexible, Health & Science Track. This decision may change at anytime during their undergraduate program. A select number of students accepted into the Health Science Studies major may be invited into the Physician Assistant (PA) Prep Track. The student-adviser relationship provides opportunity and support for each student, while pursuing their goals within the Quinnipiac University educational experience.

All students are strongly encouraged to declare a minor early in their undergraduate program to help broaden their foundational knowledge to help prepare them for their future careers or graduate programs. Qualified students have applied and attended graduate programs such as medical school, dental school, physician assistant, physical therapy, occupational therapy, nutrition, social work, speech language pathology, genetic counseling, medical laboratory sciences, pathology assistant or one of the many other health care related programs. Successful students have been accepted into combination programs such as the Dual-Degree BS/MBA (4+1) (http://catalog.qu.edu/graduate-studies/business/business-administration-mba/fast-track-combined-bs-mba) Health Care Management program, Accelerated Dual-Degree BS/JD (3+3) (http://catalog.qu.edu/academics/dual-degree-bs-jd-3-3) Pre-Law program, and Accelerated Dual-Degree BS/MSW (3+2) (http://catalog.qu.edu/health-sciences/biomedical-sciences/hss-msw) Master of Social Work program. Other options are to prepare for application to Accelerated BSN program for Second-Degree Students (https://catalog.qu.edu/nursing/nursing-accelerated-bsn) Nursing BS, or apply for a double major in health science studies along with psychology or sociology. The flexibility of program allows students the option to graduate early by taking summer and or J-term classes.

Students completing this bachelor’s degree may also qualify for employment in the health science or health care related professions with or without direct patient interaction. Some examples would be as research assistant, biotechnology industry position, pharmaceutical/medical sales, community public health worker, environmental health advocate and more. We have also seen an increase in graduates of BS programs choosing to do a “Gap” year and work entry-level jobs such as patient care associate, pharmacy technician and physical therapy assistant.

BS in Health Science Studies Curriculum

A total of 120 credits is required for completion of the BS in Health Science Studies. Below is a sample first year plan of study.

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HSC 221</td>
<td>Introduction to Health Care</td>
<td>2</td>
</tr>
<tr>
<td>BIO 101</td>
<td>General Biology I</td>
<td>4</td>
</tr>
<tr>
<td>BIO 101L</td>
<td>and General Biology I Lab</td>
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<tr>
<td>CHE 110</td>
<td>General Chemistry I</td>
<td>4</td>
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<tr>
<td>CHE 110L</td>
<td>and General Chemistry I Lab</td>
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</tr>
<tr>
<td>CHE 101</td>
<td>Fundamentals of General, Organic and</td>
<td></td>
</tr>
<tr>
<td>&amp; 101L</td>
<td>Biological Chemistry I</td>
<td></td>
</tr>
<tr>
<td>EN 101</td>
<td>Introduction to Academic Reading and Writing</td>
<td>3</td>
</tr>
<tr>
<td>FYS 101</td>
<td>First-Year Seminar</td>
<td>3</td>
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</table>

| Total Credits | 16 |

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<tr>
<td>&amp; 102L</td>
<td>Biological Chemistry II</td>
<td></td>
</tr>
<tr>
<td>EN 102</td>
<td>Academic Writing and Research</td>
<td>3</td>
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<tr>
<td>UC Elective</td>
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<td>3</td>
</tr>
</tbody>
</table>

| Total Credits | 16 |

1 Chemistry courses and additional math courses depend on intended professional goal or career plan and math placement score.

Subsequent Course and GPA Requirements

Following the first year of study, Health Science Studies students meet with their academic advisers and develop a customized plan of study that incorporates their academic and career goals. During the first two years of study, students select a specific track. To remain in good standing within the program, students must maintain an minimum overall science GPA of 2.25 and earn 120 credits for degree completion. Course selections must fulfill the following:

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td></td>
<td>University Curriculum Requirements</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Foundational Science Core (biology, chemistry &amp; physics)</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Health Science Track Specific Courses</td>
<td>19-22</td>
</tr>
<tr>
<td></td>
<td>Science Electives (e.g., health science studies, biology, biomedical sciences)</td>
<td>9-12</td>
</tr>
<tr>
<td></td>
<td>Open Electives</td>
<td>30</td>
</tr>
</tbody>
</table>

| Total Credits | 120-123 |
Clinical Preparation Track
This track provides students with a solid foundation in patient communication and evidence-based-medicine. This foundation helps to prepare students for graduate education in a variety of medical fields, such as (but not limited to) MD, DO, Dentistry, Pharmacy, Podiatry, Optometry, Audiology, Speech Language Pathology, Genetic Counselor, Anesthesiologists’ Assistant, Pathologists’ Assistant or Physician Assistant, and Accelerated Nursing programs. Students in the Clinical Preparation Track are required to take the following courses:

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<td>3</td>
</tr>
<tr>
<td>HSC 221</td>
<td>Introduction to Health Care</td>
<td>2</td>
</tr>
<tr>
<td>HSC 334</td>
<td>Clinical Skills Patient Communication</td>
<td>1</td>
</tr>
</tbody>
</table>

Choose one of the following courses:

- HSC 380 International Health Care - Field Research
- HSC 388 EMT I Training & 388L and EMT I Training Lab
- HSC 397 Pre-Health Professions Clinical Affiliation

Choose 8-9 credits from the following courses: 8-9

- HSC 205 Interprofessional Community-Based Service Learning Seminar: Age-Related (HSC 505)
- HSC 206 Interprofessional Community-Based Service Learning Seminar: International (HSC 506)
- HSC 207 Interprofessional Community-Based Service Learning Seminar: Special Populations (GT 207) (HSC 507)
- HSC 210 Introduction to Evidence-Based Health Care
- HSC 230 Counseling and Teaching for Health Care Professionals
- HSC 301 Health Care Challenges and Team-Based Solutions
- HSC 305 Emotional/Social Intelligence for the Health Sciences
- HSC 315 Bioethical Issues in the 21st Century
- HSC 380 International Health Care - Field Research
- HSC 388 EMT I Training & 388L and EMT I Training Lab
- HSC 389 EMT Training II & 389L and EMT Training II Lab
- HSC 397 Pre-Health Professions Clinical Affiliation
- HSC 401 Introduction to Medical Problem-Solving

Take 11-12 credits of science electives 11-12
Take 30 credits of open electives 30

Exercise & Nutrition Track
This track provides students with a foundation in exercise prescription and nutrition. This foundation helps prepare students for graduate studies in areas such as Physical Therapy, Occupational Therapy, Exercise Physiologists, and Nutrition/Dietitian. Students in the Exercise & Nutrition Track are required to take the following courses:

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</tr>
<tr>
<td>HSC 262</td>
<td>Nutrition in Health and Illness</td>
<td>3</td>
</tr>
<tr>
<td>HSC 326</td>
<td>Therapeutic Exercise</td>
<td>3</td>
</tr>
</tbody>
</table>

Choose two of the following courses: 6-8

- AT 330 Nutrition for Sport and Fitness
- AT 440 Biomechanics
- BMS 300 & 300L The Physiology of Human Performance I and The Physiology of Human Performance I Lab
- BMS 301 & 301L Physiology of Human Performance II and Physiology of Human Performance II Lab
- HSC 214 Care and Prevention of Athletic Injuries
- HSC 230 Counseling and Teaching for Health Care Professionals
- HSC 460 Advanced Nutrition (AT 460)

Take 10-12 credits of science electives 10-12
Take 30 credits of open electives 30

Health & Science Track
The most flexible curriculum to prepare for careers or graduate studies in one of the many other fields a student may go in with this degree, such as Health Care Management, Health Science Research, or to tailor one of the above tracks to best meet their academic needs. Students in the Health & Science Track are required to take the following courses:

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</table>

Take 6 credits of health science studies electives 6
Take 18 credits of science electives 18
Take 30 credits of open electives 30
Physician Assistant (PA) Preparation Concentration (Invitation Only)

A limited number of Health Science Studies students also may be invited into the Physician Assistant (PA)-Prep Concentration. This concentration is a means for well-qualified students to advance their interests in the PA profession but did not get accepted into the Entry-Level Master's in Physician Assistant (ELMPA) program. During the junior year, depending upon the number of seats available in the ELMPA cohort, approximately 3-5 students will be selected to transition into the ELMPA program. The remaining PA-Prep students not admitted into the ELMPA program will continue to follow a curriculum that mirrors that of the ELMPA program. As a result, the PA-Prep students will have a robust CASPA (Central Application Service for Physician Assistants) application making them a competitive applicant for other PA programs. Students interested in the PA profession who are not invited into the PA-Prep concentration may take similar courses via the Clinical Preparation Track. Students invited to the PA Prep Concentration will be required to take the following courses:

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<tr>
<td>PY 104</td>
<td>Physician Assistant Seminar I - Orientation to the Profession</td>
<td>1</td>
</tr>
<tr>
<td>PY 204</td>
<td>Physician Assistant Seminar II - The Interdisciplinary Team</td>
<td>1</td>
</tr>
<tr>
<td>HSC 202</td>
<td>Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>HSC 220</td>
<td>Health Care Essentials: Structure, Policy and Professionalism</td>
<td>3</td>
</tr>
<tr>
<td>HSC 388</td>
<td>EMT I Training &amp; EMT I Training Lab</td>
<td>3</td>
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<tr>
<td></td>
<td>&amp; 388L</td>
<td></td>
</tr>
<tr>
<td>HSC 389</td>
<td>EMT Training II &amp; EMT Training II Lab</td>
<td>3</td>
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<tr>
<td></td>
<td>&amp; 389L</td>
<td></td>
</tr>
<tr>
<td>HSC 397</td>
<td>Pre-Health Professions Clinical Affiliation</td>
<td>3</td>
</tr>
<tr>
<td>HSC 401</td>
<td>Introduction to Medical Problem-Solving</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Take 12 credits of science electives</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Take 30 credits of open electives</td>
<td>30</td>
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Student Learning Outcomes

Upon completion of the Health Science Studies program, students will demonstrate the following competencies:

1. **Scientific Knowledge**: Demonstrate proficiency in understanding and explaining fundamental scientific principles in the disciplines of biology, chemistry and physics.
2. **Interprofessional Skills**: Effectively communicate information across the medical professions using advanced medical vocabulary.
3. **Teamwork**: Apply an advanced understanding of the interprofessional nature of health care.
4. **Health Systems**: Develop an advanced knowledge of the U.S. health care system and effectively describe challenges/issues that affect it.
5. **Evidence Informed Practice**: Critically evaluate biomedical information and sources to confirm validity and reliability.
6. **Responsible Citizen**: Evaluate the social, moral and ethical implications of scientific discoveries on medical practice.

Clinical Preparation & PA-Prep Track

- **Patient Communication**: Develop fundamental clinical skills to effectively interview and communicate with patients.

Exercise & Nutrition Track

- **Essential Nutrition**: Effectively understand the role that food and nutrients play for optimal health and disease processes.
- **Exercise Prescription**: Apply an advanced understanding of the proper exercise techniques, indications, contraindications and progression related to injury, prevention, reconditioning, and return to work/participation guidelines.

Mission Statement

The mission of the Health Science Studies bachelor's degree program is to facilitate and enrich students’ development into knowledgeable, proficient and culturally competent interprofessional collaborators, who are leaders and lifelong learners, equally prepared for advanced health care education or direct entry into a health science career.

Admission Requirements

Admission into the Health Science Studies program is dependent on the applicant's potential to pursue a university program and on past academic performance. The high school student applying for admission into the Health Science Studies program should have a strong background in the biological sciences. To remain in good standing within the program, the student must maintain a science GPA of 2.25. Freshman biology (8 credits) must be successfully completed, at the latest, by the end of a student's sophomore year.

Transfer Students from within Quinnipiac University

Students currently attending Quinnipiac in another program may be accepted into the Health Science Studies program based upon a review of qualification by the program director. Students, with a science GPA of 2.25 minimum, may apply upon completion of at least one semester at Quinnipiac. Students transferring in as a junior (i.e., 57 credits or more) must have completed the general biology requirements, specifically, the equivalent of 8 credits of Quinnipiac's BIO 101 & BIO 102, or BIO 150 & BIO 151 or BIO 211 & BIO 212, prior to entry into the upper-class component of the program.

Transfer Students from Other Colleges and Universities

Transfer students from other colleges and universities may be accepted into the Health Science Studies program. These students must meet the program's performance standards and course requirements. For all transfer students, a minimum GPA of 2.67 is required. These students must have earned at least 8 credits of biology if entering their junior or senior year (i.e., having earned 57 credits or more), and performance standards of the program (science GPA minimum 2.25).
HSC 202. Medical Terminology. 2 Credits.
This course is a study of the principles of word analysis, word construction and word meanings as applied to medical and surgical terms. It includes a review of anatomy to indicate the relevance of the terms being studied. The course is designed for freshman and sophomore health science students.
Offered: Every year, All

HSC 205. Interprofessional Community-Based Service Learning Seminar: Age-Related (HSC 505). 1 Credit.
Opportunity to engage in active learning, implementing a program with a local community partner working with children/young, adults or older adults. Students are required to contribute 10-15 hours of community engagement to observe and apply the concepts of interprofessional health care in a community-based setting. Community experience is supervised by faculty with expertise in analysis of community-based practice. Classroom/community engagement schedules will be determined. Course may be taken more than once.
Offered: Every year, All

HSC 206. Interprofessional Community-Based Service Learning Seminar: International (HSC 506). 1-3 Credits.
Observe and apply various health/wellness concepts in an international community-based setting. Fifteen hours minimum community engagement at an international site is required for students to engage in active learning by implementing a program with an international community partner. Course taught by faculty with expertise in the analysis of community-based practice. Classroom/community engagement schedules will be determined. This course may be taken more than once. Application process for international experiences required.
Offered: Every year, All

HSC 207. Interprofessional Community-Based Service Learning Seminar: Special Populations (GT 207) (HSC 507). 1-2 Credits.
This course involves active learning implementing a program with a local community partner working with at-risk population. Students are required to participate in 10-15 hours of community engagement. They observe and apply the concepts of interprofessional health care in a community-based setting. Faculty with expertise in the analysis of community-based practice lead discussions and community engagement related to population health in the local community. This course may be taken more than once. Offerings include MTW section during Thanksgiving week.
Offered: Every year, All

HSC 210. Introduction to Evidence-Based Health Care. 3 Credits.
Evidence-based practice in health care is the integration of the best available research with clinical expertise in the context of patient characteristics, culture and preferences. This is an introductory course outlining the processes associated with collecting and utilizing evidence to make clinical decisions.
Prerequisites: Take MA 275 or MA 206.
Offered: Every year, Fall

HSC 214. Care and Prevention of Athletic Injuries. 3 Credits.
This course is designed to provide an overview of the athletic training profession with an emphasis on the basic fundamentals utilized by the athletic trainer in prevention, recognition, care, treatment and rehabilitation of athletic injuries. Students may not also receive credit for AT 214.
Prerequisites: Take BIO 102 BIO 102L or BIO 151 BIO 151L.
Offered: Every year, Fall and Summer

HSC 214L. CPR, AED and First Aid. 1 Credit.
Students learn principles of first aid and complete health provider certification in cardiopulmonary resuscitation and automated external defibrillator. (2 lab hrs.)
Prerequisites: Take BIO 102 BIO 102L.
Offered: Every year, Fall and Spring

HSC 215. Complementary and Alternative Medicine - a Health Science Perspective. 3 Credits.
This course is beneficial for any student who is planning on working in health care. It explores the history of Complementary and Alternative Medicine (CAM), which the National Institutes of Health Center reports is currently being used by 40 percent of Americans. This course familiarizes the student with the more common forms of CAM and the rising trend of integrative medicine departments in hospitals in the U.S. Comparisons are made between conventional medicine and CAM.
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Offered: Every year, Fall and Spring

HSC 220. Health Care Essentials: Structure, Policy and Professionalism. 3 Credits.
This course provides pre-health care professional students with an overview of the structure, systems and policies of health care delivery in the United States and includes discussions of the underlying values and political influences on quality, access and finance. Considerations are made to other nation's health care systems and how these systems address societal need. The goal of this course is to increase students' knowledge and abilities to analyze and address health care issues from the perspective of all stakeholders.
Prerequisites: Take BMS 117 or BIO 102 BIO 102L or BIO 151 or BMS 162.
Offered: Every year, Fall and Spring

HSC 221. Introduction to Health Care. 2 Credits.
Designed for health science studies majors only in their first or second year of study, this course broadens the student's understanding of the many careers in health science. It introduces key concepts necessary to work in various health care professions, develops valuable skills to improve their employability and lays a foundation for further advanced studies in the major. For HSC freshmen and sophomores only.
Offered: Every year, Fall and Spring

HSC 225. Writing in the Health Professions. 3 Credits.
This course reviews effective writing strategies that are employed in various types of published health care-related articles and media. Emphasis is placed on the students' written communication skills such as editing and clarifying of messages, and checking of accuracy of research sources. Students improve their proficiency in written communication to patients and to colleagues.
Prerequisites: Take BIO 101 BIO 101L or BIO 151; and EN 101 EN 102.
Offered: As needed

HSC 230. Counseling and Teaching for Health Care Professionals. 3 Credits.
This course provides a theoretical framework in counseling, education and overall communication for health professionals, including motivational interviewing. Students describe the importance of counseling and teaching for the health professional. The educational component includes teaching and communicating at the individual level and developing skills necessary for individual and group education and counseling.
Prerequisites: Take BIO 102 BIO 102L or BIO 150.
Offered: Every year, Fall and Spring
HSC 250. Communication Disorders. 3 Credits.
This course provides information regarding a variety of communication and swallowing disorders. Information regarding potential causes of disorders as well as intervention methods is presented. The various health care professions that work together on cases of speech, language, hearing and swallowing disorders are discussed.
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Offered: Every year, Fall and Spring

HSC 261. Scientific Study of Mummies. 3 Credits.
This distance learning course explores the field of mummy science, placing the study of mummies within a cultural and global context. Students discover what can be learned, how it can be learned and how data should be used to create new knowledge regarding mummified human remains. Course content challenges students to apply experimental design to mummy science questions. Students create hypotheses, design experiments, analyze collected data and determine the significance of the findings. The significance of mummy studies to current populations also is discussed.
Offered: Every year, Summer Online

HSC 262. Nutrition in Health and Illness. 3 Credits.
This elective course focuses on the fundamentals of human nutrition in relation to disease prevention and treatment. This course applies practical nutrition concepts as vital tools for members of a health care team to achieve optimum patient care. Emphasis is placed on the science of nutrition, nutrition throughout the life cycle and clinical nutrition.
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Offered: Every year, All

HSC 270. Pillars of Public Health: Saving the World on a Population Level. 3 Credits.
This course defines the concept of public health, with a focus on introducing what public health is, its foundations and a brief discussion of the historical context. Course content includes basic material related to all six public health foundational areas: Biostatistics, Epidemiology, Environmental Health, Sociomedical Science, Health Policy and Management, and Population and Family Health, along with select specialized topics and current events.
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Offered: Every year, Fall and Spring

HSC 301. Health Care Challenges and Team-Based Solutions. 1 Credit.
This interactive seminar focuses on common challenges in health care and how those challenges may be more effectively met utilizing a team approach to health care. The common health challenges are different each week, exploring the challenges that students may experience in their own personal, family or college life. The central outcomes of this course are to: 1) Recognize how a health care team can work together; 2) Develop strategies to react responsibly and ethically to health care issues (social intelligence); 3) Develop ideas for community action as a citizen, and 4) Identify the influence of all aspects of health care delivery.
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Offered: Every year, Fall and Spring

HSC 305. Emotional/Social Intelligence for the Health Sciences. 2 Credits.
This course provides the student with an appreciation and understanding of the role of emotional/social intelligence in everyday living and especially in the health sciences. Topics include how emotional intelligence differs from IQ, anatomy of emotions and the mind-body connection, education for and development of emotional literacy, assessing one's own social intelligence level, applying social intelligence skills to one's personal and professional lives. Personal assessments, small group experiential activities, case studies, journaling and project development are the essential methodology for this course. Prerequisite may be waived with permission of instructor.
Prerequisites: Take BIO 102 or BIO 151.
Offered: Every year, Fall and Spring

HSC 315. Bioethical Issues in the 21st Century. 3 Credits.
Students gain a solid understanding of bioethical principles and examine ethical dilemmas in medicine and the moral arguments that accompany them. Controversial bioethics issues such as assisted-suicide, stem-cell research, medical marijuana, organ donation and designer babies are explored through research, contemporary media and the students' own moral compasses. They study the role of public policy on bioethics and investigate cases that shaped the way modern medicine is practiced today. The course stimulates discussion leading to final group debate projects.
Prerequisites: Take EN 102 and BIO 102 or BIO 151.
Offered: Every year, All

HSC 320. The Environment and Human Health. 3 Credits.
This course examines the connection between our environment and human health and disease. Topics include an overview of toxicology, carcinogenesis, risk assessments, precautionary principle and bioaccumulation. Environmental connections to infectious diseases, emerging viruses, food production practices, loss of biodiversity, and endocrine disruptors also are discussed along with bioethical concerns of these topics. The course touches on health policies and regulations addressing environmental health issues. Students apply critical thinking skills to current environmental situations affecting our health as well as exploring the role individuals and professional health organizations have in accountability.
Prerequisites: Take BIO 102 or BIO 151.
Offered: As needed

HSC 322. Health Care Law (LE 322). 3 Credits.
This course provides an overview of the legal issues faced by health care providers and patients. Students explore various topics arising from the organization and financing of health care, provider liability, bioethics and public health. The course focuses on the way in which law impacts the delivery of health care in the United States.
Prerequisites: Take LE 101 HSC 220.
Offered: Every other year, Spring

HSC 326. Therapeutic Exercise. 3 Credits.
This course provides a systemic approach to therapeutic exercise program development. Students review exercise techniques, indications, contraindications, progression as related to injury, prevention, reconditioning, and return to work/participation guidelines. The course provides the student with a strong foundation in physical rehabilitative medicine and examines various goals concerning the return to functional activity.
Prerequisites: Take BIO 211 BIO 211L.
Offered: Every year, All
HSC 330. Leadership: Creating Adaptive Cultures. 3 Credits.
In this course, students explore leadership theory and practice. This is a problem-based learning course that requires students to develop new insights around leadership and leading from the literature and from each other. Students spend the first week defining the term, and the subsequent weeks applying and refining their ideas through case-method vignettes and biographies. The culminating project of the course is to create a simple leadership development workshop, one that might be used by health care professionals.
Prerequisites: Take BIO 102 BIO 102L.
Offered: Every year, Summer Online

HSC 334. Clinical Skills Patient Communication. 1 Credit.
This 1-credit course is dedicated to teaching fundamental clinical skills for patient interviewing. Students learn how to foster patient relationships and gather information during a medical interview using verbal and nonverbal communication skills in a professional and respectful manner. This course is designed for junior or senior students with a premedical designation and prehealth students majoring in health science studies or biomedical sciences.
Prerequisites: Take BIO 102 BIO 102L or BIO 151 BIO 151L.
Offered: Every year, Fall and Spring

HSC 350. Language Development. 3 Credits.
This course explores all areas of typical language development from birth through adulthood. Students examine literacy development and how it is impacted by language development. Students learn how to obtain and analyze language samples.
Prerequisites: Take BIO 211 BIO 211L.
Offered: Every year, Fall and Spring

HSC 351. Pharmacological Interventions for Common Medical Conditions. 3 Credits.
This course enables the student to recognize, evaluate and differentiate common systemic diseases, understand appropriate pharmacological interventions, understand the principles of pharmacology and common issues that arise when specific pharmacological agents are employed. Students may not receive credit for AT 351 also.
Prerequisites: Take BIO 212 BIO 212L.
Offered: Every year, Fall and Spring

HSC 375. Immunology. 3 Credits.
This immunology course examines topics related to the immune system, particularly the human immune system. The immune system is designed to differentiate self and non-self in order to prevent infection, disease and/or death. Students examine and discuss the current understanding of the immune response and discover why we are not sick all the time and how the body's immune system remembers "enemies" that it has seen in the past. This course covers the innate immune system, plus the two arms of the adaptive immune system—humoral immunity and cellular immunity. Immunodeficiencies, immunopathologies and immunotherapies also are discussed. Students may receive credit for BMS 375 or HSC 375, but not both.
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Offered: Every year, Spring and Summer Online

HSC 378. Vaccines and Vaccine-Preventable Diseases. 3 Credits.
This immunology course involves the investigation of vaccines and vaccine-preventable diseases (VPDs). The purpose of the course is to examine and discuss the current understanding of vaccinations and how they work, as well as the historical and current implication of VPDs. Student gain knowledge about VPDs, the childhood vaccination schedule, why they are still necessary and, most importantly, how to explain why they are safe, and to be able to debunk the current myths and misconceptions regarding vaccines. Students may only take one of the following for credit: BMS 378 or HSC 378.
Prerequisites: Take BIO 102 or BIO 151.
Offered: Every year, Summer Online

HSC 380. International Health Care - Field Research. 3 Credits.
This course provides health science students with an overview of the health care structure, systems and delivery in another country. Field research is conducted during a semester break trip, during which time students interact with the local community members and health professionals. Prior to the trip, students research the factors that influence the quality, access and finance of health care. Common health issues and their social determinants are explored as they relate to the subpopulation of interest. The goal of this course is to increase students' knowledge and abilities to analyze and address health care issues specific to a population while in the field.
Prerequisites: Take BIO 101 BIO 102 or BIO 150 BIO 151 and MA 275 or MA 206.
Offered: Every year, Fall and Spring

HSC 388. EMT I Training. 2 Credits.
This course includes both lecture and clinical experience, and provides students with an opportunity to develop the knowledge and skills required for Emergency Medical Technician National Certification. Successful completion of HSC 388-389 (two-semester sequence) and fulfillment of the state-mandated hours of instruction are required to be eligible for certification. This course must be taken in conjunction with HSC 388L.
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Corequisites: Take HSC 388L.
Offered: Every year, Fall

HSC 388L. EMT I Training Lab. 1 Credit.
This is the laboratory component of HSC 388. It includes learning the techniques necessary to develop the knowledge and skills required for Emergency Medical Technician National Certification. This course must be taken in conjunction with HSC 388.
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Corequisites: Take HSC 388.
Offered: Every year, Fall

HSC 389. EMT Training II. 2 Credits.
This course includes both lecture and clinical experience, and provides students with an opportunity to develop the knowledge and skills required for Emergency Medical Technician National Certification. Successful completion of the HSC 388-389 (two-semester sequence) and fulfillment of the state-mandated hours of instruction are required to be eligible for certification. This course must be taken in conjunction with HSC 389L.
Prerequisites: Take HSC 388-HSC 388L.
Corequisites: Take HSC 389L.
Offered: Every year, Spring
HSC 389L. EMT Training II Lab.  1 Credit.
This is the laboratory component of HSC 389. It includes learning the techniques necessary to develop the knowledge and skills required for Emergency Medical Technician National Certification. This course must be taken in conjunction with HSC 389.
Prerequisites: Take HSC 388 HSC 388L.
Corequisites: Take HSC 389.
Offered: Every year, Spring

HSC 397. Pre-Health Professions Clinical Affiliation.  3 Credits.
This course provides an opportunity to observe a health professional in a student's field of interest for a minimum of 36 hours. Students observe social, ethical and medical issues in a clinical setting. Professional dress is required, and some sites may require a background check. Students are responsible to arrange their site and are provided with guidance and contacts to do so. For HSC or BMS majors only, Junior or Senior Status, with minimum 2.5 GPA
Prerequisites: Take BIO 102 BIO 102L or BIO 151.
Offered: Every year, Fall and Spring

HSC 460. Advanced Nutrition (AT 460).  3 Credits.
This advanced-level food and nutrition course examines the composition and physiological role of nutrients and their relationships to health and the body. Macronutrient metabolism as well as a detailed examination of the role of vitamin and mineral metabolism are explored. Current nutrition issues of supplement use, weight management, sports nutrition, nutritional ecology and the application of nutrition directly to food and its preparation also are addressed.
Prerequisites: Take AT 330 or HSC 262.
Offered: Every year, Spring

HSC 498. Independent Study in Health Sciences.  1-4 Credits.
This course consists of health sciences content not offered by another QU catalog course. It must involve contact hours and scholarly activities equivalent to any regularly offered course. This course often includes a review of the scientific literature in the field of the research project and creating a "product," such as a term essay, a series of short papers, laboratory or project reports, a portfolio or presentation at a scientific meeting. Students cannot register online; registration is via a paper form only. BMS students may take up to 8 credits of BMS 482, BMS 483, BMS 498, BMS 499, HSC 498, HSC 499.
Offered: As needed

HSC 499. Independent Study in Health Sciences II.  1-4 Credits.
This course consists of health sciences content not offered by another QU catalog course. It must involve contact hours and scholarly activities equivalent to any regularly offered course. This course often includes a review of the scientific literature in the field of the research project and creating a "product," such as a term essay, a series of short papers, laboratory or project reports, a portfolio or presentation at a scientific meeting. Students cannot register online; registration is via a paper form only. BMS students may take up to 8 credits of BMS 482, BMS 483, BMS 498, BMS 499, HSC 498, HSC 499.
Offered: As needed

HSC 505. Interprofessional Community-Based Service Learning Seminar: Age-Related (HSC 205).  1 Credit.
This course provides an opportunity to engage in active learning, implementing a program with a local community partner working with children/youth, adults or older adults. Students are required to participate in 10-15 hours of community engagement to observe and apply the concepts of interprofessional health care in a community-based setting. Community experience is supervised by faculty with expertise in analysis of community-based practice. Classroom/community engagement schedules will be determined. Course may be taken more than once.
Offered: Every year, All

Students observe and apply various health/wellness concepts in an international community-based setting. Students are required to spend a minimum of 15 hours at an international site to engage in active learning by implementing a program with an international community partner. Course is taught by faculty with expertise in the analysis of community-based practice. Classroom/community engagement schedules will be determined. This course may be taken more than once. Application process for international experiences required.
Offered: Every year, All

HSC 507. Interprofessional Community-Based Service Learning Seminar: Special Populations (HSC 207).  1-2 Credits.
This course involves active learning implementing a program with a local community partner working with at-risk population. Students are required to participate in 10-15 hours of community engagement to observe and apply the concepts of interprofessional health care in a community-based setting. Faculty with expertise in the analysis of community-based practice lead discussions and community engagement related to population health in the local community. This course may be taken more than once. Offerings include MTW section during Thanksgiving week.
Offered: Every year, All

Pre-Medical Studies Program
Students majoring in Health Science Studies, Biology, Biomedical Sciences or the natural science track of Behavioral Neuroscience may fully participate in the pre-medical studies program. The curriculum in this degree program can fulfill the science prerequisites for most professional schools. Students should refer to Pre-Medical Studies (http://catalog.qu.edu/academics/premedical-studies) for more information about the pre-medical studies program and contact the Health Professions Advisory Committee for further academic advising.