

## School of Arts and Sciences

# PRE-ALLIED HEALTH CAREERS

[www.placement.pitt.edu/advisors/aabt.html](http://www.placement.pitt.edu/advisors/aabt.html)

The University of Pittsburgh is a unique place to explore and deepen your interest in the health sciences as an undergraduate. We provide the resources you need to become a successful candidate for a professional school of chiropractic medicine, optometry, podiatry, or veterinary science while offering a variety of options for your undergraduate education. These resources also can help you prepare for applying to medical school, dental school, or other health science programs such as physical therapy, clinical dietetics and nutrition, communication science, or occupational therapy.

You will be an undergraduate student in a city renowned for training healthcare professionals and transforming research developments into methods of patient care. The University of Pittsburgh campus shares a half-square-mile section of the city with a concentration of hospitals, institutes, clinics, and specialty practices. The University of Pittsburgh Medical Center (UPMC) is one of the largest academic medical centers in the country, encompassing teaching hospitals such as UPMC Montefiore and UPMC Presbyterian; top-notch research centers such as the University of Pittsburgh Cancer Institute and the Musculoskeletal Research Center; and comprehensive services in areas such as geriatrics, occupational and environmental medicine, and trauma treatment. UPMC is one of the leading centers for organ transplantation in the world, a top recipient of national research funding, ranked fifth in the nation for otolaryngology (a.k.a. the ear, nose, and throat doctor), and home to nationally prominent research on heart disease, AIDS, and neurosurgery.

Having a major medical center on campus puts you in touch with professionals who can help you in terms of advising, professional connections, volunteer opportunities, internships, and research. The University has six graduate schools of the health professions, including the Schools of Medicine, Nursing, Pharmacy, Dental Medicine, and Health and Rehabilitation Sciences, and the Graduate School of Public Health. The School of Medicine was ranked among the top 20 accredited medical schools in the country by *U.S. News and World Report*, and the School of Dental Medicine is ranked among the top 20 schools in the country by *The Gourman Report*, an annual rating of American collegiate programs. If you choose, you may live on a residence hall floor reserved exclusively for students interested in pursuing health-related careers.

## Your Undergraduate Degree

When selecting candidates for admission, professional schools of the health sciences generally do not require a particular undergraduate major. They instead emphasize the importance of receiving a broad liberal arts education and avoiding narrow specialization in any one area. Therefore, the University of Pittsburgh does not offer a major in pre-allied health careers, or pre-medicine or pre-dentistry for that matter. You can instead pursue any of the more than 50 majors in the School of Arts and Sciences or undergraduate degree programs from other Pitt schools, such as business administration, bioengineering, pharmacy, or social work. Regardless of major, every student who would like to apply to a professional school of the health sciences must take the prerequisite science courses needed for admission. Should you decide not to go this route, the structure of the curriculum you follow as an undergraduate gives you an excellent background for many types of graduate programs and employment. Some majors in the School of Arts and Sciences include:

Africana Studies  
Anthropology  
Applied Mathematics  
Biological Sciences  
Chemistry

Communication: Rhetoric  
English Literature  
English Writing  
Environmental Studies  
Film Studies

Foreign culture, language,  
and literature including Chinese,  
French, Japanese, Russian, and  
Slavic  
History and Philosophy of Science



Mathematics  
Microbiology  
Molecular Biology  
Music

Neuroscience  
Philosophy  
Physics and Astronomy  
Political Science

Psychology  
Religious Studies  
Sociology  
Urban Studies

Many students interested in a career in the health sciences get an undergraduate degree in biology, chemistry, or neuroscience because they are interested in the sciences and many of the courses required for these majors coincide with the preparatory course work needed for admission to professional schools of the health sciences. The University's undergraduate science program was ranked 10th nationally by *The Gourman Report* and encompasses subjects such as biology, chemistry, microbiology, molecular biology, neuroscience, and physics. The Department of Neuroscience is one of only three departments of its kind nationally to offer an undergraduate degree in this field. Four undergraduate majors—history and philosophy of science, information science, nursing, and philosophy—are ranked among the top six programs in their fields, and several other majors in the School of Arts and Sciences are considered exceptional in their fields.

### Required Courses

Regardless of your major, all students interested in applying to a professional school of the health sciences should show competence in the required science courses. These schools also look for students who have excellent communication and problem-solving abilities, a love of learning, creativity, motivation, and a commitment to the health sciences in academic performance and areas such as volunteering, hospital experience, and community service.

Students are advised to learn the specific admissions requirements for the health science program(s) that interest them. The following courses are the standard requirements for admission to any professional school of the health sciences and are generally completed before the end of your junior year:

#### **Biology**

BIOSC 0150 Foundations of Biology 1 (3 credits)  
BIOSC 0050 Foundations of Biology Lab 1 (1 credit)  
BIOSC 0160 Foundations of Biology 2 (3 credits)  
BIOSC 0060 Foundations of Biology Lab 2 (1 credit)

#### **Chemistry**

CHEM 0110 General Chemistry 1 (4 credits)  
CHEM 0120 General Chemistry 2 (4 credits)  
CHEM 0310 Organic Chemistry 1 (3 credits)  
CHEM 0330 Organic Chemistry Lab 1 (1 credit)  
CHEM 0320 Organic Chemistry 2 (3 credits)  
CHEM 0340 Organic Chemistry Lab 2 (1 credit)

#### **English** (6 credits minimum)

One composition course (3 credits)  
One literature course (3 credits)

#### **Math**

MATH 0220 Analytic Geometry and Calculus 1 (4 credits)

#### **Physics**

Algebra-Based Physics Sequence  
PHYS 0110 Introduction to Physics 1 (3 credits)  
PHYS 0111 Introduction to Physics 2 (3 credits)  
PHYS 0212 Introduction to Laboratory Physics (2 credits)

or

Calculus-Based Physics Sequence  
PHYS 0174 Basic Physics for Science and Engineering 1 (4 credits)  
PHYS 0175 Basic Physics for Science and Engineering 2 (4 credits)  
PHYS 0219 Basic Laboratory Physics for Science and Engineering (2 credits)

### Additional Requirements

- Some schools require an additional math course such as MATH 0230 Analytic Geometry and Calculus 2.
- Advanced science courses such as BIOSC 1000 Biochemistry, NROSCI 1000 Introduction to Neuroscience, and NROSCI 1070 Human Physiology, and a course in critical writing may help you prepare for the admission test(s) for professional health science schools.
- Schools of optometry often require courses in human anatomy, biochemistry, microbiology, human physiology, psychology, and/or statistics.
- Schools of veterinary science often require courses in biochemistry, genetics, microbiology, and statistics, as well as a variety of electives in the humanities. These schools also require that students gain experience treating and handling both large and small animals in a variety of settings through internships, volunteering, and employment.

### University Honors College

Many students interested in a career in the health sciences take courses through the University Honors College (UHC) as undergraduates. UHC courses typically offer a more in-depth treatment of the material covered in a nonhonors course. Students work more problems, write more, read more, and discuss topics more in depth. An average of 40 UHC courses is offered each

semester in a variety of departments, and many of these are honors equivalents of the science courses required for admission to professional schools of the health sciences. As a UHC student, you can meet an academic community of talented and motivated students, increase your opportunities for performing independent research and teaching, and supplement your academic credentials.

### **Certificate in Conceptual Foundations of Medicine**

The Department of History and Philosophy of Science offers a Certificate in Conceptual Foundations of Medicine program that gives students an opportunity to explore the connection between medicine and the humanities. The program is of particular interest to students who would like to pursue a career in the healthcare professions and consists of the following courses:

- HPS 0612 Mind and Medicine
- HPS 0613 Morality and Medicine
- One two-term college-level course in biology (satisfied by BIOSC 0150 and 0160)
- Two upper-level courses dealing with social and conceptual issues in the biomedical sciences (from two different departments)
- At least a C grade in each of the required courses and at least a C+ average, overall, in the certificate requirements.

### **Advising**

Advisors at the School of Arts and Sciences advising center or the school where your undergraduate major is located can help you plan your course work, so you take the science courses required for admission to a professional health science program, satisfy the requirements of your major, and get a broad-based education that reflects your interests. You also may meet with the health professions consultant to help clarify your career goals and balance your academic life with extracurricular activities and community service. Near the end of your junior year, you prepare a personal file to be reviewed by the pre-professional health committee, a group of University faculty. Based on this file, the committee prepares a composite evaluation for each student that can be included in your application to a professional health science school.

Students usually take the admission test for a professional school of the health sciences in the spring of their junior year after completing the required science courses. These tests are designed to measure skills in physical sciences, biological sciences, verbal reasoning, and writing ability.

Schools of allopathic and osteopathic medicine require the Medical College Admission Test (MCAT).

Schools of optometry require the Optometry Admission Test (OAT).

Schools of podiatry require the Medical College Admission Test (MCAT).

Schools of veterinary medicine require the Graduate Record Examination General Test (GRE).

**For more information on preparing for graduate study in a professional school of the health sciences (including medical school or dental school) at the University of Pittsburgh, please contact:**

University of Pittsburgh  
Career Development Office  
Pre-professional Health Advising  
224 William Pitt Union  
Pittsburgh, PA 15260  
412-648-7130  
[www.placement.pitt.edu/advisors/aabt.html](http://www.placement.pitt.edu/advisors/aabt.html)

**For information on any major at the University of Pittsburgh, as well as preparing for other careers in the health sciences, such as clinical dietetics and nutrition, health information management, or occupational therapy, please contact:**

University of Pittsburgh  
Office of Admissions and Financial Aid  
Alumni Hall, 4227 Fifth Avenue  
Pittsburgh, PA 15260  
412-624-PITT  
E-mail: [oafa@pitt.edu](mailto:oafa@pitt.edu)  
Web site: [www.oafa.pitt.edu](http://www.oafa.pitt.edu)

## Campus and Community Involvement

### Volunteering

Students preparing for any professional school of the health sciences are encouraged to volunteer at local institutions to explore and confirm their interest in medicine and caretaking. Clinical experience also demonstrates a commitment to pursuing this type of education. Local hospitals and clinics accept volunteers in a variety of locations, including the emergency department, operating rooms, pulmonary department, recovery room, pharmacy, and laboratories. Other opportunities include assisting sports medicine therapists, visiting terminally ill patients as a hospice volunteer, working with audiologists and speech pathologists, and assisting in the University day care center. Some locations at which you may volunteer include:

Animal Rescue League of Western Pennsylvania  
Center for Sports Medicine  
Ronald McDonald House  
Western Pennsylvania School for Blind Children  
Western Psychiatric Institute and Clinic  
UPMC Presbyterian

The Rehabilitation Institute  
University of Pittsburgh Cancer Institute  
Children's Hospital of Pittsburgh of UPMC  
Eye & Ear Institute  
Magee-Womens Hospital of UPMC

### Community Service

Community service helps students get hands-on experience helping people in a variety of ways. Some ways you can get involved include tutoring University and middle-school students, assisting at local nursing homes, and building homes for low-income families with Habitat for Humanity.

**Pre-Medical Organization of Minority Students (POMS)** assists students from minority groups underrepresented in the health science professions with issues such as recruitment, financial aid, motivation, and completion of their course work as they progress toward graduate study at a professional school of the health sciences.

**The Summer Pre-Medical Academic Enrichment Program** is offered for minority students with an interest in medicine who will be college freshmen or sophomores in the coming fall. The intense, seven-week program helps students develop an in-depth understanding of the professional health sciences through lectures, laboratory exercises, and visits to surgeries, births, and the Allegheny County morgue. Students also participate in a community service project. A stipend and room and board are available for out-of-town participants.

### Undergraduate Research

Students interested in biomedical research can assist in research labs in a variety of settings, including the Departments of Biological Sciences, Chemistry, or Neuroscience; School of Medicine; Graduate School of Public Health; University hospitals; University of Pittsburgh Cancer Institute; and Western Psychiatric Institute and Clinic. You can perform undergraduate research for academic credit or a salary in your junior and senior years or during summers as part of the summer research training program.

### Study Abroad

Studying abroad is an exciting way to add an international perspective to your undergraduate education and strengthen your credentials as a graduate. The University of Pittsburgh encourages you to take advantage of this opportunity (almost 5 percent of Pitt students study abroad compared with 1.3 percent, nationally). Study abroad will not only distinguish you when you enter the job market or pursue graduate study, but also help broaden your experience of the world beyond your own country's borders, giving you an appreciation of other cultures and peoples while allowing you to earn credits toward your degree. Scholarships are available, and financial aid is applicable.

The pre-medical program at the University of Sussex in Brighton, England, for example, features MCAT preparation courses and a well-established volunteer program at local hospitals. Here, you will pay Pitt tuition and room and board to the host institution, where you will find a lively student body and a huge number of clubs and societies. Sussex prides itself on effective teaching styles that attract scholars from around the world.

If you're thinking about studying abroad in Europe, why not try a country where Europe is a little different—Denmark? In Denmark, you can experience the Old World in a new form while challenging yourself and your mind. Denmark is a safe, affluent, and small country where you will feel right at home in no time at all. During this program you can study topics from the humanities and sciences, international business, marine biology and ecology, arctic biology, architecture and design, and engineering. You will go to weekly field studies in most of your classes, guided by your professors, to Parliament, art museums, the Royal Ballet, maximum-security prisons, ecological farms, banks, industry, and many others. There are also study tours to Denmark outside Copenhagen, Stockholm, and Russia and Estonia. Don't worry about a language barrier—all classes are taught in English, and most Danes speak English.