

# Preprofessional Programs

## Premedical Programs

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[www.american.edu/cas/prog\\_premed.cfm](http://www.american.edu/cas/prog_premed.cfm)

The premedical programs of the College of Arts and Sciences are available to help all undergraduate, postbaccalaureate, and graduate students who are considering a career in medicine or one of the allied health professions.

Premedical program services include extensive individual advising on careers, courses, volunteer and research opportunities, professional school examinations, selection of schools, and financial aid. The program also provides seminars by health professionals, resume preparation and essay writing assistance, medical school interview preparation, preparation of a composite letter of evaluation, and support in compiling and sending letters of recommendation to professional schools.

The annual Health Professions Seminar features first-hand advice from guests and former American University students who have gone on to health professional schools.

The annual Health Careers Forum brings together health professionals, admissions officers, and career counselors who provide an overview of assistance available to students as well as opportunities and highlights of the admissions process for allopathic and osteopathic medical, dental, and veterinary schools, and physician assistant, nurse practitioner, physical therapy, podiatry, optometry, public health, and other allied health programs.

Students from American University applying to medical, dental, or veterinary school have been highly competitive, with 86 percent of qualified applicants accepted by medical schools.

### Advising Services

Students interested in the health professions should contact the premedical programs coordinator as soon as possible. The coordinator helps students select an appropriate curriculum, prepare for the relevant admissions tests, make realistic choices of professional schools, and learn first-hand about biomedical research and clinical practice. The coordinator is available to meet with students individually at least once a semester to review their academic progress and course of study at American University. Together with students' academic advisors, the coordinator helps assure timely completion of both degree and premedical requirements.

Typically, at the end of their junior year premedical students submit a primary application to the American Medical Colleges Application Service, which forwards this general application to specified schools. Medical schools will then send individual applications to selected students.

In order to prepare professional-school applications, each student assembles a file containing essential information. Members of the Premedical Evaluation Committee serve as mentors for students. The Writing Center and the Career Center can provide advice about writing personal statements and other docu-

ments and interview practice. After the file, including letters of recommendation, is assembled, a comprehensive Premedical Evaluation Committee letter of evaluation will be prepared to support the application. Included in the letter is a summary of the academic record and extracurricular activities, and an evaluation of commitment to a medical career.

### Premedical Curriculum

Traditionally, premedical students have majored in the natural sciences. However, the medical professions are also seeking well-rounded students with a broadly-based liberal education, reflecting the social, ethical, and cultural roles played by health care professionals. Students interested in medical careers may major in any field, but must make careful plans to take the necessary preparatory courses in a timely fashion.

Most health professional schools require certain foundation courses in science and mathematics, along with a full year of college-level writing. All science courses must include laboratory components. Undergraduate students who wish to matriculate at a professional school directly after graduation from American University must submit applications at the end of the junior year. Therefore, the basic requirements should be completed in the freshman and sophomore years, following the sequence of courses listed below.

#### Freshman Year

- BIO-110 General Biology I 5:1 (4)
- BIO-210 General Biology II 5:2 (4)
- CHEM-110 General Chemistry I 5:1 (4)
- CHEM-210 General Chemistry II 5:2 (4)
- MATH-221 Calculus I (4)
- MATH-222 Calculus II (4)

#### Sophomore Year

- BIO-300 Cell Biology with Laboratory (4)
- BIO-356 Genetics with Laboratory (5)
- CHEM-310 Organic Chemistry I (3)
- CHEM-312 Organic Chemistry I Laboratory (1)
- CHEM-320 Organic Chemistry II (3)
- CHEM-322 Organic Chemistry II Laboratory (1)
- PHYS-110 University Physics I 5:1 (4)
- PHYS-210 University Physics II 5:2 (4)

This intensive plan also prepares students to take the Medical College Admissions Test (MCAT) in the spring of their junior year.

To receive most favorable consideration, the Medical College Admissions Test (MCAT) or Dental Aptitude Test (DAT) must be taken in the spring of the junior year, about 16 months before matriculation in medical or dental school. Veterinary schools typically require that the Graduate Record Examination (GRE) be taken at the end of the junior year.

The above sequence presumes that a student has already decided by the beginning of his or her freshman year to pursue a premedical course of study. Students who do not decide on a medical career until the middle of their undergraduate studies or

later may need to complete their premedical requirements during summers or in a post-baccalaureate year.

### **Research and Internship Opportunities**

The premedical program encourages close interaction with the faculty. Many undergraduates have engaged in independent research projects in biology, chemistry, physics, and experimental psychology which have led to presentation and publication of papers.

Many opportunities for internships, volunteer work, and biomedical research are available. Local hospitals and clinics provide students with clinical experience. At institutions such as the National Institutes of Health and other local laboratories and biotechnology companies, students may gain first-hand basic research experience in biochemistry, immunology, molecular biology, and molecular genetics.

### **Premedical Achievement Prize and Scholarship**

The American University Hassa S. Shanker Premedical Achievement Prize is a \$1,000 cash award presented to the most outstanding undergraduate student intending to apply to a health professional school who has taken at least five science and mathematics courses at American University. Selection is based on academic achievements, leadership qualities, and contributions to society or the health professions. Applicants must be planning to apply to medical, dental, or veterinary school, or to a program in the health sciences, such as physical therapy.

The Josephine G. Gimble Scholarship is a \$1,500 annual award to an undergraduate or postbaccalaureate student preparing for a career in the allied health sciences.

## **Postbaccalaureate Premedical Certificate**

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Postbaccalaureate work consists of academic study undertaken after earning a bachelor's degree. American University's Postbaccalaureate Premedical Certificate program is designed to complete basic requirements and strengthen credentials for application to health professional schools of human medicine (M.D. or D.O.), dentistry (D.D.S.), veterinary medicine (D.V.M.), podiatry (D.P.M.), optometry (O.D.), and oral surgery (D.M.D.), and to advanced degree programs in the allied health sciences such as public health (M.P.H.) and physician assistant, nurse practitioner, and physical therapy programs leading to the M.S. or Ph.D. degree.

This program offers students extensive guidance and assistance in preparing for professional school and a career. With the help of advisors they polish resume and essay-writing skills, prepare for the Medical College Aptitude Test (MCAT) or other admissions examinations, practice medical school interviews, select potential professional schools, and address related financial issues. Through the program, students may also attend seminars by health professionals, identify volunteer opportunities,

and be matched with a mentor. Each emerges with a composite letter of evaluation, held with letters of recommendation in a personal file. The premedical programs coordinator sends these letters to professional schools for students and assists them in meeting all application deadlines.

### **Admission to the Program**

Open to students with a bachelor's degree and a cumulative grade point average of 3.20 (on a 4.00 scale) overall and in science and mathematics courses, if taken.

### **Course Requirements**

#### **Basic Requirements**

The following courses are required for admission to medical school and to many other health professional schools. Once enrolled in the Postbaccalaureate Premedical Certificate program, any of these courses not already completed must be taken at American University.

- BIO-110 General Biology I (4)
- BIO-210 General Biology II (4)
- CHEM-110 General Chemistry I (4)
- CHEM-210 General Chemistry II (4)
- CHEM-310 Organic Chemistry I (3)
- CHEM-312 Organic Chemistry I Laboratory (1)
- CHEM-320 Organic Chemistry II (3)
- CHEM-322 Organic Chemistry II Laboratory (1)
- MATH-221 Calculus I (4)
- PHYS-110 University Physics I (4)
- PHYS-210 University Physics II (4)

#### **Certificate Requirements**

A minimum of 24 hours of course work taken in residence at American University, including:

- BIO-300 Cell Biology with Laboratory (4)
- BIO-356 Genetics with Laboratory (5)
- One of the following sets of two courses:  
BIO-435 Vertebrate Physiology (5) *and*  
BIO-440 Microbiology (4)  
*or*  
CHEM-560 Biochemistry I (3) *and*  
CHEM-561 Biochemistry II (3)
- 6–9 credit hours from the Basic Requirements list above or the following:  
BIO-200 Structure and Function of the Human Body (3)  
BIO-541 Cellular Immunology (3)  
BIO-550 Developmental Biology (3)  
BIO-583 Molecular Biology (3)  
MATH-222 Calculus II (4)  
STAT-202 Basic Statistics (4)