

PHARMACY SCHOOL

PLANNING GUIDE

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**INTRODUCTION**

The purpose of this booklet is to describe the process of preparing for and applying to pharmacy school. The most important challenge for students is deciding that becoming a pharmacist is the career for you and assessing the implications of that decision. It is our hope that you have consulted your pre-health advisor at several points during your undergraduate career at Hopkins, as well as practitioners in the pharmacy field, in order to help you clarify your motivation to become a pharmacist. In making the decision to apply to pharmacy school, it is important to consider the range of health career options that are available to you.

The demand for trained pharmacy professionals has increased in past years due to the rapid growth of the healthcare and pharmaceutical industries, especially for the growing elderly population. The number of pharmacists in healthcare services is also growing, as pharmacists become more actively involved in drug therapy decision-making for patients of all ages. There is good potential for advancement and competitive salaries within a pharmacy career. Those pharmacists who pursue additional graduate study and/or residency experience have greater mobility within the profession including areas of research, administration and business

If you proceed with your application, the initiative is and must be yours. It is essential that you complete the tasks outlined here on time and do a thorough job of putting together the best possible presentation of yourself. We are here to support you throughout the application process and wish you every success in achieving your goals. A majority of the information in this booklet is provided by the American Association of Colleges of Pharmacy (AACP).

We wish you success in your health career pursuits,

Katie Cruit, MS

Advisor to Pre-Pharmacy Students

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***What does a Pharmacist Do?***

* Pharmacist responsibilities include a range of care for patients, from dispensing medications to monitoring patient health and progress in order to maximize their response to medication.
* Pharmacists educate consumers and patients on the use of prescriptions and over the counter medications.
* Pharmacists advise physicians, nurses and other health professionals on drug decisions.
* Pharmacists provide expertise about the composition of drugs, including their chemical, biological and physical properties and their manufacture and use.
* Pharmacists ensure drug purity and strength and make sure that drugs do not interact in a harmful way.
* Pharmacists are drug information experts ultimately concerned about their patients’ health and wellness.

***Pharmacy Career Options***

The most visible setting for pharmacists is in the local, community pharmacy; however, pharmacists are found in a wide variety of settings:

* ***Community pharmacies****:* Approximately 62% of pharmacists work in community pharmacies. These can include independently-owned pharmacies, chain pharmacies, pharmacy departments in food or discount stores, or professional health centers.
* ***Other direct health care facilities****:* Other practice opportunities exist for pharmacists in hospitals, home health care, nursing homes and extended care facilities, neighborhood health centers, and health maintenance organizations.
* ***Private industry:***Pharmacists are also employed by firms that discover, develop and produce chemicals, prescriptions and nonprescriptive drugs and other health products.
* ***Government:*** Pharmacists hold staff and supervisory posts in the US Public Health Service, the Department of Health and Human Services, the Department of Veteran Affairs, the Food and Drug Administration and the Armed Services.

***Personal Abilities of a Pharmacist***

* Genuine interest in people and medicine.
* High ethical standards and the ability to meet the pharmacy’s demands for judgment, dependability, and conscientious performance.
* Strong attention to detail.
* An ability to communicate well with patients and healthcare providers.
* Emotional stability, calm mind, decision making ability and etiquettes to deal with variety of people.

***Characteristics of a Successful Applicant***

###### Those considering applying to a pharmacy school often ask what they need to do to get accepted or what the schools are seeking in candidates. What the schools seek in applicants are:

###### “Strong Academic Record”

* Demonstrated mastery of the basic science requirements.
* Demonstrated a broad and successful exposure to the humanities and social sciences.
* Maintained or further developed the ability to read rapidly and understand sophisticated material in the humanities and social science. This is especially important for those taking a test like the Pharmacy College Admissions Test (PCAT).
* Demonstrated ability to be a lifelong learner, and have shown “mature and independent scholarship,” etc.
* Established a relationship with at least four faculty members and with a professional in the field who can write a letter of recommendation.

“Firm and Clear Motivation”

* Demonstrated ability to care for fellow human beings and their welfare.
* Demonstrated knowledge of the role of a pharmacist from direct personal contact.

“Outstanding Personal Qualities”

* Demonstrated personal traits such as maturity, stability, integrity, responsibility, trustworthiness, leadership, enthusiasm, etc.
* Demonstrated having accomplished something worthwhile, and developed skills and abilities to contribute to my intended profession.
* Demonstrated the ability to communicate with varied populations.
* Demonstrated the ability to effectively deal with those of other cultural backgrounds.

***Academic Preparation for Applying to Pharmacy School***

To enter a pharmacy program, one generally must complete three to four years of college credit at an accredited institution. Some pharmacy schools give preference to students who have earned a bachelor’s degree.

There is no particular major required for pharmacy school, just the prerequisite of certain science classes. However, due to the advanced chemistry requirement at many pharmacy schools, a chemistry or chemistry related major often is pursued. You should check the specific admissions requirements for your schools of interest; however, some typical prerequisite courses include:

* Biology with lab (8 credits)
* Microbiology with lab (4 credits)
* Chemistry with lab (8 credits)
* Organic chemistry with lab (3-4 credits)
* Biochemistry with lab (3-4 credits)
* Human anatomy and physiology with lab (8 credits)
* Physics (8 credits)
* Calculus (6 credits)
* Psychology (3 credits)
* English (3 -6 credits)
* Humanities and social science classes (3-6 credits)

Johns Hopkins University does not offer all of these courses. If you need to complete prerequisite courses that are not offered at Johns Hopkins University, you may take courses at other area colleges and universities through the Johns Hopkins University Academic Cooperative Program (<http://web.jhu.edu/prepro/health/cooperative_programs.html>). In some cases you can also complete these courses through accredited online programs or at community colleges. You will need to meet with your academic advisor and an advisor in the Pre-Professional Programs and Advising Office about these options.

***Choosing a Pharmacy School***

Choosing which pharmacy schools you apply to is a personal decision, so relying on any rankings may be misleading. Instead, consider these questions as you review each schools material to make your choices:

* What is the focus of the pharmacist’s training, and does it match my interests and needs?
* What is the structure of the curriculum in terms of what is taught and when?
* What academic resources are available?
* What services are available to the students?
* Where is the school located? Most state-supported pharmacy schools give significant preference to state residents.

***Applying to Pharmacy School***

There are four major steps in the application process:

1. Taking the Pharmacy College Admissions Test (PCAT) – however, not all pharmacy programs require PCAT.
2. Completing the Pharmacy Central Application Service (PharmCAS) for the U.S. schools that participate in PharmCAS or individual school applications for non-participating institutions.
3. Submitting supplemental materials such as letters of evaluation and academic transcripts.
4. Managing the timing of the application process.

###### Pharmacy College Admissions Test (PCAT)

The PCAT is a specialized test that helps identify qualified applicants to pharmacy colleges. The examination is administered in a computer-based format and takes approximately four hours to complete. It consists of 240 multiple-choice items and two writing topics. The PCAT measures six content areas:

* ***Verbal Ability:***This section tests for vocabulary and usage of words in language. This is done through questions based on analogies and sentence completion.
* ***Biology:*** This section tests for knowledge in biology topics including general biology, microbiology and anatomy and physiology.
* ***Reading Comprehension:*** This section tests the ability to understand text. After being presented six passages based on scientific topics, you will answer questions based on comprehension, analysis and evaluation of the given material.
* ***Quantitative Ability:*** The quantitative ability section is based on testing for mathematical skills. You are required to have basic knowledge of math, algebra, probability and statistics and calculus.
* ***Chemistry:*** You are expected to have basic knowledge about general chemistry and organic chemistry.
* ***Writing Ability:*** This section requires a written essay where you are posed with a problem. You will provide a solution to the problem demonstrating problem solving skills and language ability.

Please note that not all pharmacy programs require the PCAT. You will need to check with schools individually on their specific requirements.

Pharmacy College Application Service (PharmCAS)

PharmCAS is the online application service that allows you to apply to pharmacy programs through one application and send it with other information to a centralized service. PharmCAS will verify your application accuracy, computer process it, and send it along with your supplemental materials to the pharmacy programs you designate. Please note that not all pharmacy programs participate in PharmCAS and will require applicants to complete and submit separate admissions applications.

Fees for using PharmCAS are based on a graduated scale that varies according to the number of programs you designate to receive your application information.

Up to four letters of recommendation may be accepted by PharmCAS and they should be written by individuals such as academicians, physicians, licensed and practicing pharmacists or other health care providers. Some programs may have requirements or specifics as to the type of letter of recommendation so be sure to check with the schools to which you are applying for specific information.

Information on PharmCAS requirements and the process of completing a PharmCAS application can be found at: <http://www.pharmcas.org/>.

Supplemental Application Materials

While PharmCAS has application requirements, there may be other requirements for admission, including application forms, personal statements, and a personal interview. Be sure to check with the individual schools to determine what supplemental materials are required.

Managing the Timing of the Application Process

DON’T PROCRASTINATE! Participating PharmCAS programs encourage applicants to submit applications at least two weeks before their institutional deadline to insure timely processing and to avoid delays. In some cases it may improve your chances for admission to those pharmacy institutions that use a rolling admissions process. Application deadlines vary and every school has its own program start date. Please be sure to research the application deadlines and program start dates ahead of time.

Healthcare Related Experience

Pharmacy programs encourage or require you to have volunteer or paid experience working with patients in a pharmacy or health-related setting such as a hospital, nursing home, etc. Ongoing work or volunteer experience in a pharmacy setting may be an important factor in the admissions process.

Letters of Recommendation/Evaluation

Types of recommendation letters vary by pharmacy school. If you are applying through PharmCAS, they require that no more than four letters be submitted in either paper format or electronically (preferred method) directly to PharmCAS. Most schools prefer the letters to be from:

* Academic advisor or faculty member
* Employer
* A licensed and practicing pharmacist or other health care provider

Keep in mind that an important part of your application consists of letters of recommendation written by people who know you personally. It is your job to solicit the strongest possible letters of recommendation/evaluation.

Select your recommenders to reflect a variety of your strengths. A strongly supportive letter from someone in your major field of study can be very important. If you are taking a tutorial, or have done independent research, ask your supervisor to write a letter for you. Be thoughtful about what each person can contribute.

Whenever possible, ask for your letter in person. Request a brief interview and use the opportunity to discuss your application. We advise you to prepare a statement of why you wish to attend pharmacy school to help the writer.

Be respectful of demands on your recommender. Allow approximately a month for your letter to be written. Follow-up with a written thank-you note, and later advise them of your admissions decision. Your recommenders are interested in you.

***Financing Pharmacy School***

Everyone knows that the cost of pharmacy school is expensive and getting more expensive. In general, pharmacy schools do not consider ability to pay when selecting applicants. They expect each student will manage with the help of parents, spouse, and other family members to pay for the tuition and costs. Fortunately, however, additional help is available from a variety of other sources, including federal and state government loans, institutional loans and scholarships, and private foundations.

As you complete the application process, your main source of information will be the financial aid offices of the pharmacy schools themselves. They will help you put together a financial aid package based on your estimated costs and ability to pay. The financial aid is usually an important consideration in finalizing your choice of a pharmacy school.

***Pharmacy Resources***

A number of sites offer information about careers as a pharmacist, preparing for admission and financial aid for pharmacy students.

American Association of Colleges of Pharmacy (AACP)

[www.aacp.org](http://www.aacp.org)

List of Pharmacy Schools in U.S. and Abroad:

[www.aacp.org/resources/student/Pages/SchoolLocator.aspx](http://www.aacp.org/resources/student/Pages/SchoolLocator.aspx)

Resources for Non U.S Applicants

<http://www.aacp.org/resources/student/Pages/ForeignStudentsandGraduates.aspx>

Pharmacy College Application Service (PharmCAS)

[www.pharmcas.org](http://www.pharmcas.org)

Pharmacy College Admissions Test (PCAT)

[www.pcatweb.info](http://www.pcatweb.info)

American Pharmacists Association (APhA)

[www.pharmacist.com](http://www.pharmacist.com)

U.S. Department of Health and Human Resources - Health Resources and Services Administration

[www.hrsa.gov](http://www.hrsa.gov)

Johns Hopkins Career Center

[www.jhu.edu/~careers](http://www.jhu.edu/~careers)

Johns Hopkins University Office of Undergraduate Advising – National Scholarships Advising

[www.jhu.edu/~advising/scholarships/index.html](http://www.jhu.edu/~advising/scholarships/index.html)

Free Application for Federal Student Aid

[www.fafsa.ed.gov](http://www.fafsa.ed.gov)

Stafford Loan

[www.staffordloan.com](http://www.staffordloan.com)

Johns Hopkins University Academic Cooperative Programs

<http://web.jhu.edu/prepro/health/cooperative_programs.html>