

Pharmacy Education

Pharmacy is a key player in primary and preventive health care and is defined as the science of the composition, use and dispensing of drugs. The study and practice of Pharmacy has evolved and expanded considerably over the years due to the exponential growth of the health care and pharmaceutical industry. Pharmacy practice is committed to achieving optimum results from medication therapies in the interest of building a healthier society.

Education: Admission requirements and procedures for study and entry into professions in the US vary from those in home countries of international students.

The Doctor of Pharmacy (PharmD degree) is a four-year entry level graduate professional program preparing students for practice in pharmacy. Applicants are required to complete two years of pre-pharmacy course work from an accredited college/university to qualify for admission. Some pharmacy schools may prefer to enroll students with an undergraduate degree while others may not. Pre-requisite course work may cover chemistry, biology, anatomy and physiology, humanities, social and behavioral sciences, English, organic chemistry, microbiology, physics, calculus, statistics, macro/ micro economics along with lab work.

The key areas in the PharmD curriculum may include pharmacology, pharmaceutical chemistry, pharmacognosy, clinical pharmacy, disease-state management, social sciences, pharmacy law and policy, pharmacy administration with supervised experiential training. All PharmD programs must be accredited by the Accreditation Council for Pharmacy Education (ACPE). Pharmacy College Admission Test (PCAT) scores are required as part of the admission requirements by around 75% of the pharmacy schools.

Note: Some U.S. schools of pharmacy do not consider international (non-U.S.) applicants for admission while some restrict admissions to applicants who live in the same state as the school.

M.S. and Ph.D. programs: Schools of Pharmacy offering the traditional MS and PhD programs prepare students for teaching and research careers. Areas of study include but are not limited to pharmaceutical sciences, pharmacy care sciences, pharmacology and toxicology experimental and clinical pharmacology, pharmaceuticals, medicinal chemistry, pharmacodynamics, pharmacognosy and pharmacy administration. Students may also consider intensive joint degree tracks such as PharmD/PhD; PharmD/MBA; PharmD/MPH; PharmD/MPA; PharmD/JD.

Occupations in Pharmacy: Hospital pharmacist, public health sector pharmacist, community pharmacist, industry-based pharmacist, pediatric pharmacist, managed care pharmacist, clinical pharmacist, nuclear pharmacist, drug developer, consultant, chain drug store pharmacist, veterinary pharmacist, researcher, professor are some career options to consider depending on the nature of the pharmacy degree earned.

Choosing a Pharmacy Program: Seeking admissions to accredited pharmacy schools is a competitive process. Learn the admissions requirements, trends and current developments in the profession to identify programs that meet your preferences and goals. International students should consider acceptability and recognition of such programs in their home country.

The Pharmacy College Application Service (PharmCAS) is a centralized application system with participation from around two-thirds of all US colleges of Pharmacy). For information on participating pharmacy schools, eligibility and application procedures please go to <http://www.pharmcas.org/>.

Note: Students are advised to browse through the website of each program or the PharmCAS website to determine eligibility for admission since some PharmD programs do not admit international students.

Pharmacy Licensure: All U.S. States and territories require a license to practice pharmacy. PharmD graduates of pharmacy schools approved by the State Board of Pharmacy and accredited by the Accreditation Council for Pharmacy Education (ACPE) are required to take the North American Pharmacist Licensure Exam (NAPLEX). Since licensure requirements vary from state to state, prospective pharmacists may need to comply with additional requirements outlined by the licensing jurisdiction. Graduates of foreign pharmacy schools who wish to practice in the U.S. must complete the Foreign Pharmacy Graduate Examination Committee (FPGEC) certification which includes the Foreign Pharmacy Graduate Equivalency Examination FPGEE exam. The TOEFL iBT is required for students whose native language is not English. For further information, please look up the website for the National Association of Boards of Pharmacy <http://www.nabp.net>



Pharmacy residencies in the US: Residency programs are one or two-year post-graduate training programs that are pursued on completion of the DPharm degree. Pharmacy graduates gain practical experience with the opportunity to apply and enhance their knowledge and skills in clinics, hospitals, community practice and managed care settings. The American Society of Health System Pharmacists (ASHP) sponsors the Resident Matching Program (RMP) for pharmacy residency positions. Foreign educated pharmacy graduates registering for the RMP should have the FPGEC certificate and the relevant US state license. For detailed information, please look up <http://www.natmatch.com/ashprmp/>

Some associations and organizations affiliated with study of Pharmacy:

- American Association of Colleges of Pharmacy <http://www.aacp.org/>
- American Pharmacists Association <http://www.pharmacist.com/>
- Accreditation Council for Pharmacy Education <http://www.acpe-accredit.org>
- National Association of Boards of Pharmacy <http://www.nabp.net>
- American Association of Pharmaceutical Scientists: <http://www.aaps.org>
- American Society of Health System Pharmacists <http://www.ashp.org/>
- International Pharmaceutical Students' Federation. <http://www.ipsf.org/>

Some journals related to the study of Pharmacy

American Journal of Pharmaceutical Education, American Pharmaceutical Review, Journal of Pharmacy Practice, Journal of Pharmacy and Pharmaceutical Sciences, Annals of Pharmacotherapy, Pharmaceutical Research, US Pharmacist, Journal of Managed Care Pharmacy, Journal of Clinical Pharmacy and Therapeutics, American Journal of Health-System Pharmacy, Journal of the American Pharmacists Association

Undergraduate program search print and online resources

- College Board, www.collegeboard.com (Search for schools with the College Board's online "College Maker")
- Read about specific majors and careers using the "Majors and Career Profiles" search http://www.collegeboard.com/csearch/majors_careers/profiles/
- Peterson's Four-Year Colleges

Graduate program search print and online resources

- Peterson's www.petersons.com
- Peterson's Graduate Programs in Business, Education, Health, Information Studies, Law & Social Work; Book # 6
- American Association of Colleges of Pharmacy www.aacp.org (search and compare Pharmacy degrees)
- Pharmacy School Admission Requirements (PSAR) <http://www.aacp.org/>

Find scholarships to study Pharmacy:

- EducationUSA Financial Aid links www.educationusa.info/pages/students/finance.php
- Funding for US Study www.fundingusstudy.org
- The Fulbright Program <http://fulbright.state.gov>

International students need to check with individual programs and funding institutions to ascertain eligibility for scholarships and financial aid.

References: <http://www.aacp.org/> <http://www.bls.gov/oco/ocos079.htm>