

- This document is meant to serve as a guide to students interested in applying to Pharmacy School. It is not a degree plan. Be sure to check the requirements of the specific Pharmacy School you plan on applying to.
- Any major is acceptable for admission to pharmacy school. Study whatever you are interested in and do well. There is, however, a set of required courses for pharmacy school.

Required Courses

ENG 101 Reading, Writing, and Rhetoric (3) OR ENG 105 First Year Writing Seminar (3)

ENG 102 Research, Writing and Rhetoric (3) OR ENG 301 Advanced Composition (3)

BIO111 Cell and Molecular Biology (4)

BIO 171 Human Anatomy (3)*

BIO 320 Principles of Microbiology (4) or BIO 273 Clinical Microbiology (4)

BIO 348 Vertebrate Physiology (3) or BIO 301 Human Physiology (3) *

*Cannot be used to complete a biology major or minor.

CHE 111/CHE 111L General Chemistry I (4)

CHE 112/CHE 112L General Chemistry II (4)

CHE 361/CHE 361L Organic Chemistry I (4)

CHE 362/CHE 362L Organic Chemistry II (4)

CMS 210 Public Speaking (3)

ECO 230 Principles of Economics I (3)

Mat 234 Calculus I (4) or Mat 1114 College Algebra (3) and Mat 122 Pre-calculus (3)

STA 270 Applied Statistics I (3) or SAT 215 Introduction to Statistical Reasoning

Recommended Courses for the PCAT and Success in Pharmacy School

BIO 315 Genetics (4)

CHE 430/CHE 432L Biochemistry –Macromolecules (4)

CHE 431 Biochemistry –Metabolism (3)

PHY 131 College Physics I (5)

PHY 132 College Physics II (5)

Potential Employment Issues for PharmDs (1,2)

- In 2000 there were 80 colleges and schools of pharmacy in the US.
 - In 2011 there were 127 colleges and schools of pharmacy in the US.
 - In 2001 there were 7,000 first-professional PharmD graduates.
 - In 2011 there were 11,931 first-professional PharmD graduates.
 - It is projected that by 2016 the number of PharmD graduates will range between 14,000 and 15,000 per year.
 - Employment data from 2002 to 2008 indicates that this period saw a modest, but stable shortage of pharmacists. Equilibrium was reached in 2010. In 2012 data show a national surplus of community pharmacists. For institutional pharmacists, the vacancy rate (% of unfilled positions requiring a PharmD) in hospitals dropped from 7.2% in 2002 to 2.4% in 2011. Additionally, the average salary of pharmacists is flattening after a decade of yearly increases of ~ \$4400. These trends point toward difficulties for the bottom 20% of graduating PharmD classes.
- 1) Daniel L. Brown. A Looming Joblessness Crisis for New Pharmacy Graduates and the Implications it Holds for the Academy. *AMJ Pharm Educ.* 2013: 77 (5): Article 90.
 - 2) Jeff Cain, et al. Pharmacy Student Debt and Return on Investment of a Pharmacy Education. *AMJ Pharm Educ.* 2014: 78 (1): Article 5.

What does this mean for you?

- Do not attend pharmacy school unless you are truly passionate about the field.
- Minimize the debt you take on to attend pharmacy school.
- Research the fate of graduates from the specific school you are applying to.
- Have a plan for finding employment and start networking before you graduate with your degree.

Useful Links

<http://www.aacp.org/Pages/Default.aspx> : The American Association of Colleges of Pharmacies

<http://www.aacp.org/resources/student/Pages/default.aspx> : AACP Student Resource Center

<http://www.pharmininja.com/building-experience-for-your-pharmacy-school-application/> : Importance of Shadowing

http://www.pearsonassessments.com/postsecondaryeducation/graduate_admissions/pcat.html : Main website for the PCAT

Summer Opportunities

<https://www.training.nih.gov/programs/sip>

http://clinicalcenter.nih.gov/training/students/summer_internships.html

<http://www.cincinnatichildrens.org/education/research/surf/default/>

<http://www.hhmi.org/programs/science-education-research-training>

<https://med.uc.edu/rose>

<http://pharmacy.mc.uky.edu/research/>