

# Pre-Pharmacy Program in the Biology Department at Winthrop University

## INTRODUCTION

Pharmacists dispense prescriptions and counsel patients on medications and wellness. The [University of South Carolina \(USC\)](#) in Columbia and [The Medical University of South Carolina \(MUSC\)](#) in Charleston offer the Doctor of Pharmacy (Pharm.D.) degree. These programs are highly competitive and require several steps to apply.<sup>1,2</sup>

Students interested in pursuing a career in Pharmacy may major in any area, but should ensure that they complete the prerequisites listed below. The Biology program provides the best set of classes to prepare you for pharmacy school and includes all of the prerequisites. If you choose a different program then you will need to make sure you include the prerequisites as part of your general curriculum. In addition, admission to Pharmacy programs is highly competitive so students will need to maintain a strong GPA. For example, students accepted into USC's Pharm.D. program have an average GPA of 3.6.<sup>1</sup>

Students are also required to take the PCAT for some programs (Pharmacy College Admission Test). The PCAT is a standardized test that assesses student's academic ability and scientific knowledge. Students should plan on studying and preparing for the PCAT before taking the exam.<sup>3</sup> Students must also gain exposure to the Pharmacy profession and can do this by working, volunteering, or shadowing with a Pharmacist. Students may consider BIOL 461 or BIOL 463 for internship credit, which will document the number of clinical hours obtained.

Additionally, students should strive for a well-rounded background in extracurricular activities, such as leadership roles in student organizations, athletic participation and/or community service. Students are also encouraged to participate in undergraduate research and gain experience in publishing and/or presenting their research.

## COURSEWORK

*The following are only guidelines; students should consult their advisors and programs of interest to plan their academic schedule.*

### Biology:

General Biology I and II with labs (BIOL 220/222, 221/223)

Human Anatomy and Physiology I and II (BIOL 307 and 308 - need to take both to count)

Microbiology (BIOL 310) *lab not required*

### Chemistry:

General Chemistry I and II with labs (CHEM 201, 202, and 204; OR CHEM 211 and 204)

Organic Chemistry I and II with labs (CHEM 301, 302, 304)

### Physics:

Physics (PHYS 201/201L) *lab not required*

### Math:

Calculus (MATH 105 or 201)

Statistics (MATH 141/241 or 341)

### Additional Courses:

General Psychology (PSYC 101)

English Composition (WRIT 101)

English Literature/Composition (CRTW 201)

Public Speaking/Verbal Skill (SPCH201 and/or BIOL 480)

Economics (ECON 103 or 215 or 216) *sometimes required*

Liberal Art Electives (9 credits in Humanities and Social Sciences)

## WHAT ELSE YOU CAN DO TO PREPARE FOR PHARMACY SCHOOL

The admissions process for pharmacy school is highly competitive. Winthrop offers several opportunities for you to gain experience and skills that will help prepare you for pharmacy school and distinguish yourself as an applicant. You should speak to an advisor about identifying opportunities at Winthrop and in the community. Opportunities available within the Biology Department include:

- Internships (BIOL 461 or 463)
- Undergraduate Research (BIOL 370, 371, 450H, 470, 471, 472)
- Bench to Bedside Program
- Tri-Beta Honors Society

- Honors Program and Honors Thesis
- Pre-Health Professions Student Organization Membership/Leadership
- SEA-PHAGES Program
- Health Professions Connection Blackboard Organization (provides supplemental advising and other helpful information, resources, and services for students planning to go into health professions)

**Notes:**

- (1) Pharmacy Education. University of South Carolina College of Pharmacy (2022). Retrieved from: [https://www.sc.edu/study/colleges\\_schools/pharmacy/pharmacy\\_education/index.php](https://www.sc.edu/study/colleges_schools/pharmacy/pharmacy_education/index.php).
- (2) Prospective Students. Medical University of South Carolina College of Pharmacy (2022). Retrieved from: <https://pharmacy.musc.edu/students-and-admission/prospective-students>
- (3) About the PCAT. American Association of Colleges of Pharmacy (2022). Retrieved from: <http://pcatweb.info/About-the-PCAT.php>.