

PHYSICIAN-SCIENTIST (MD-PHD)

Physician Scientists serve to advance biomedical knowledge through research and bridge research and clinical patient care. The physician-scientist offers a unique blend of addressing patients' medical challenges while delving into research that could uncover the root causes of their illnesses, leading to potential clinical remedies. MD-PhD trainees function as research scientists who explore the mechanisms behind diseases alongside their dedication to patient care in clinical settings.

MD-PhD programs offer a combined degree track that allows you to earn both an M.D. degree and a Ph.D. degree concurrently. MD-PhD programs typically take longer to complete compared to traditional medical school, usually around 7-8 years, but they provide comprehensive training in both clinical medicine and scientific research. Graduates of MD-PhD programs often go on to become faculty members at medical schools, universities and research institutes.

As an undergraduate pre-med (MD-PhD) student at USC, it is important to carefully review the prerequisite course requirements of all programs of interest because they vary from school to school, in some cases greatly. Academic performance, GPA (overall and science) and MCAT scores are contributing factors in the admission process.

MD-PhD programs seek candidates who bring academic excellence, research prowess, a fervent interest in scientific inquiry, and a dedication to merging clinical practice with research. As an applicant, you must clearly convey your drive for pursuing an MD-PhD and your vision for a career as physician-scientist. Many MD-PhD programs require previous experience and involvement in research initiatives, but length and depth of which varies across institutions.

We encourage you to meet with a Pre-Health Advisor at least once a semester to ensure satisfactory progress towards your goals!

COMMON CORE COURSES

Students are responsible for verifying the prerequisite coursework and policies of the schools to which they plan to apply.

Course	# of Courses	USC Course(s)
General Biology	2 courses with lab	BISC 120L and BISC 220L or BISC 121L and BISC 221L
General Chemistry	2 courses with lab. Major may determine course selection.	CHEM 105aL and CHEM 105bL or CHEM 107L and CHEM 108L or CHEM 115aL and CHEM 115bL
Organic Chemistry	2 courses with lab. Major may determine course selection.	CHEM 322aL and CHEM 322bL or CHEM 325aL and CHEM 325bL
Physics	2 courses with lab. Major may determine course selection	PHYS 135aL and PHYS 135bL or PHYS 151L and PHYS 152L
Biochemistry	1 course Major may determine course selection.	Science Majors: BISC 330L Non-Science Majors: CHEM 350g (Fall only) or BISC 312 (Spring only)
Calculus	1 course (required by some medical schools.)	MATH 125 or MATH 126 (Math 118 will suffice for BUAD majors)
Statistics	1 course	MATH 208x or QBio 305g or HP 340Lg or PSYC 274g or BUAD 310g
Writing / English	2 courses	WRIT 150 and WRIT 340
Sociology	1 course (highly recommended for MCAT)	SOCI 200 or SOCI 210 or SOCI 242
Psychology	1 course (highly recommended for MCAT)	PSYC 100Lg

DID YOU KNOW?

- A science major is **not required**. Students should choose a major based on their interests and an area that they find exciting, which at the same time, will keep them academically competitive.
- All pre-med science courses must be taken for a letter grade and earn a minimum grade of "C" or better.
- MD-PhD programs have differing policies for accepting AP/IB credits to fulfill prerequisites. **Most do not accept AP credit.** Review each school's policies.
- **AMCAS** is the central application service for many MD-PhD programs. After submitting your primary AMCAS application, you may receive secondary applications from individual MD-PhD programs.
- The MCAT is valid for **3 years**.
- Some schools may require a letter of recommendation from a **research advisor or mentor** who supervised the research activities you list in your application.
- Some MD-PhD programs may require the **PREview** and **Casper** exams. Refer to each school for verification.
- There are **122 MD-PhD programs** in the United States.
- There is more than one way to become a physician scientist. One may just complete their MD program and then pursue research thereafter.