

PRE-MEDICINE

College of Liberal Arts and Sciences Advising Center
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PORTLAND STATE UNIVERSITY

A career in medicine offers a broad array of opportunities, ranging from clinical practice to biomedical research to public health policy development. Physicians are knowledgeable about the scientific basis of medicine as well as the abnormal and normal functioning of the human body. In addition, physicians are ideally compassionate, honest, and skilled in both listening to and communicating with patients and colleagues. Physicians may practice general family or internal medicine, while others are surgeons, forensic pathologists, obstetricians, orthopedists, medical geneticists, researchers, and more. The variety of specialties and opportunities in medicine is wide-ranging and diverse.

Allopathic physicians are Doctors of Medicine (MDs). The MD is proficient in both the art and science of medicine and is probably the most highly recognized medical professional. **Osteopathic** physicians are Doctors of Osteopathy (DOs). The DO tends to view health problems from a holistic point of view and is able to prescribe medications and perform manipulation of the neuromusculoskeletal system when appropriate. Allopathic (MD) and osteopathic (DO) physicians have the same rights and responsibilities in all fifty states.

Allopathic and osteopathic schools of medicine require that applicants complete a specific set of prerequisite courses prior to enrollment. Allopathic schools of medicine also commonly require that students earn a baccalaureate degree before matriculating to medical school. Osteopathic schools of medicine may not require the applicant to earn a baccalaureate degree prior to matriculating. Regardless, it is strongly recommended that students complete a baccalaureate degree prior to matriculation in medical school. **Portland State offers a strong pre-medical program** whereby students complete their prerequisite coursework, earn a baccalaureate degree, and obtain extensive assistance with the medical school preparation, selection, and application process.

Prerequisite Courses Required by Most Medical Schools:

- One year of General Biology (called Principles of Biology at PSU)
- One year of General (Inorganic) Chemistry
- One year of Organic Chemistry
- One year of General Physics

NOTE: Science courses should be those designed for science majors

Additional Prerequisite Courses Required by Some Medical Schools:

- College math and/or calculus and/or statistics
- College English
- Biochemistry
- Genetics
- Behavioral Sciences such as Psychology
- Minimum credit requirements in the humanities and/or social sciences

The above lists are not exhaustive. Check individual schools for requirements. Note that most professional schools require that an **A, B, or C** be earned in all required preparatory courses. **Admission to medical school is limited and extremely competitive.** In 2007, medical school matriculants had an average non-science GPA of 3.73 and an average science GPA of 3.59 (the AAMC has not yet released matriculant data for 2008).

Medical College Admissions Test (MCAT):

Medical schools also require students to take the MCAT. The MCAT tests students on biological and physical sciences, verbal reasoning, and written communication skills. It is recommended that the MCAT be taken in the spring or early summer of the application year (or earlier). Discuss when you should take the MCAT and how to prepare for the MCAT with the pre-med adviser. Note that MCAT scores older than three years will not be considered by medical schools.

Requirements for Admission to OHSU Medical School

Most PSU pre-med students apply to the **Oregon Health & Science University (OHSU) School of Medicine**, along with other medical schools across the nation. The following is an outline of OHSU's prerequisite courses and other admissions requirements (subject to change at any time). Students should research the admissions requirements of additional medical schools in *Medical School Admission Requirements (MSAR)*, the most authoritative reference guide to U.S. and Canadian medical schools.

Prerequisite Coursework

OHSU Prerequisite Courses	Equivalent PSU Courses
<p>Mathematics - One mathematics course (<i>not including statistics</i>); calculus is recommended.</p> <p>Statistics is a strongly recommended <i>additional</i> course.</p>	<ul style="list-style-type: none"> • MTH 111 (4)* – Introductory College Math I is the lowest level of math that can be used to fulfill the requirement. Most pre-med students complete MTH 112 as well (it is the prerequisite for Physics). Some pre-med students also complete one or more terms of Calculus. MTH 251 is the first term of calculus. MTH 112 is the prereq for MTH 251. • STAT 243 (4) – Intro to Prob & Stats – recommended extra course; cannot be used to fulfill OHSU's math requirement.
<p>Chemistry: One course each of general chemistry, organic chemistry and biochemistry. Laboratories are recommended. (Since undergraduate curricula vary from school to school, in fulfilling this requirement <i>it is implied that the required prerequisite sequences in general and organic chemistry will have been completed in order to take the biochemistry course.</i>)</p>	<ul style="list-style-type: none"> • CH 221/227, CH 222/228, CH 223/229 (15) – General Chemistry (MTH 111 is a pre- or co-requisite for this course) • CH 334, 335, 336 & 337 (lab), 338 (lab) (16) – Organic Chemistry I, II, III w/ Lab (The labs can be taken fall/winter or winter/spring) • CH 350 (4) – Biochemistry (CH 336 is the recommended prerequisite)
<p>Biology: One academic year of general biology to include one genetics course. Laboratories are recommended.</p>	<ul style="list-style-type: none"> • BI 251, 252, 253 w/ Lab (15) – Principles of Biology (recommend CH 221 be complete prior to or concurrent w/ BI 251) • BI 341 (4) – Introduction to Genetics (take after completing BI 251-253 sequence)
<p>Physics: One year (regular or calculus-based)</p>	<ul style="list-style-type: none"> • PH 201/214, 202/215, 203/216 (15) – General Physics w/ Lab (Note: MTH 112 is a recommended prerequisite)
<p>Humanities, Social Sciences and English: Two academic years (six quarters or four semesters) of humanities and/or social sciences to include one course in English composition (or equivalent writing emphasis).</p>	<ul style="list-style-type: none"> • WR 121 or above** • 5 quarters of any of the following: ANTH, ARH, EC, ENG, FLL, HST, PSY, SOC, MUS (appreciation), PHL, SP, or TA • Note: Completion of University Studies or University Honors will satisfy these requirements.

* Some medical schools require one or more terms of calculus. OHSU does not require calculus but recommends it.

**Some medical schools require up to three terms (one year) of writing. Discuss with the pre-medical adviser.

Additional OHSU Admissions Requirements:

- **BS or BA** (must be earned prior to matriculation). No particular major is preferred, but a broad educational background is encouraged.
- **Eligible MCAT score** (scores older than three years will not be considered).
- **United States citizenship or resident alien status** with a current green card indicating they are a permanent resident of the United States. (Resident aliens are encouraged to have at least one year of full-time course work at a college or university in the United States.)
- **Both the minimum academic and MCAT qualifiers** set for that entering class. For the 2009 entering class, the minimum qualifiers are a cumulative total GPA of 2.8 and a cumulative score of 24 on the most recent eligible MCAT. Minimum qualifiers are subject to change from one admissions cycle to the next.
- **Application deadline: October 15, but apply early (you can submit in early June).**

Applying to Medical School

Application Process in Brief:

Students typically apply to medical school more than a year before they expect to matriculate to medical school (e.g. in the early summer before their last academic year in college). Some students wait until their final year of college to apply to medical school if they wish to have a year between completing the undergraduate program and beginning medical school. This is commonly referred to as a “glide year” or “gap year”; many students spend it gaining relevant experience in healthcare and/or taking additional recommended coursework.

Students apply to medical school by completing and submitting a **primary application** through a central application service (AMCAS or AACOMAS). This service standardizes the information from the application and forwards it to the medical schools indicated by the applicant. The next step of the application process is the **secondary application**. In secondary applications, medical schools request additional information from students, such as **letters of evaluation** and responses to essay questions. Some medical schools automatically invite all applicants to complete secondary applications, while others only invite applicants who meet minimum GPA and MCAT score criteria to complete them.

Students typically send their evaluation letters to medical schools by using PSU’s **Health Sciences Advising Committee (HSAC) Letter** service. A Committee Letter of evaluation is essentially a cover letter written by the student’s adviser followed by all individual evaluation letters submitted to the advising office by instructors and non-academic evaluators (such as work and volunteer supervisors and physicians). The cover letter includes the HSAC’s ratings for the student in three categories: 1) academic accomplishment, 2) clinical exposure, and 3) extracurricular, research, and community service activities. The Committee’s ratings are based on the HSAC’s review of the student’s HSAC file, which includes information such as GPA, MCAT scores, transcripts, relevant activities, and personal statement. Students must meet certain minimum requirements in order to request a Committee Letter. See a pre-medical adviser for more information on the Committee Letter service and the application process.

Interviews normally take place between September and February for acceptance the following fall (although some schools continue to interview into the spring). Most admissions offers are made during fall and winter terms but some schools, including OHSU, continue to make offers through spring term (and even later in some cases for applicants who are pulled off of wait lists).

Central Application Services:

Allopathic Schools:

American Medical College Application Service (AMCAS)
Association of American Medical Colleges
2450 N Street, NW
Washington, DC 20037-1123
E-mail: amcas@aamc.org
Phone: (202) 828-0600
<http://www.amcas.org/>

Osteopathic Schools:

American Association of Colleges of Osteopathic Medicine’s Application Service (AACOMAS)
5550 Friendship Blvd., Suite 310
Chevy Chase MD 20815-7231
Fax: (301) 968-4101
<https://aacomas.aacom.org/>

Application Deadlines:

- The application cycle for both allopathic and osteopathic medical schools begins in **early June**.
- Application deadlines for **allopathic medical schools** range from **October 15 to December 15**. August 1 is the Early Decision Program (EDP) deadline (not all medical schools feature EDPs). It is best if you **apply early** in the application cycle – approximately 1+ years in advance of when you plan to matriculate to medical school. This means applying during the **summer before your last year in college** or the summer after your last year of college (if you want a “glide year”).
- Application deadlines for **osteopathic medical schools** range from **October 15 to April 15**. The schools operate on a rolling admissions basis, so classes may be filled before the deadline dates. By applying early, you are assured your materials will be processed in a timely manner.

Tips & Recommendations:

- **Meet periodically (ideally once a term) with a pre-medical adviser** to discuss course planning and activities, remaining requirements to meet, and application procedures. Call 503-725-3822 to schedule an appointment with an adviser. Call the same number to find out drop-in advising hours, which can be utilized for quick questions or updates (or emergencies).
- **Ask your instructors throughout your college program to complete academic evaluation forms.** Do not wait until you are applying to ask for letters. Do not ask every single instructor you have had to write an evaluation letter for you. Be strategic about whom you are asking to write letters for you. You should select instructors in whose classes you have performed well and who know you well enough to comment on more than just your grade and rank. You will also need to request letters from non-academic evaluators and provide them with the non-academic evaluation form. Request these letters of evaluation at the end of your work, volunteering, or shadowing experience, or if you are still in the position at time of application, request the letter well in advance of the HSAC deadline. Ask a pre-medical adviser where the evaluation forms are located.
- **Personally read the admission brochure, Web site, and MSAR chapter** for each of the medical schools to which you plan to apply to obtain information on admissions requirements and deadlines and to determine if the school is a good fit for you.
- **Take advantage of medicine-related courses offered by Portland State University**, including Introduction to Pre-Medical Studies, The Art of Medicine (taught at OHSU), Biomedical Ethics, Literature & Medicine, Sociology of Integrative Medicine, and Reading and Writing for the MCAT.
- **Participate in paid, volunteer, and/or shadowing experience** in the health care field and in the community at large early on in your college experience. It is important that you understand the realities of the medical field and illustrate through action your commitment to serving the community.
- **Seek out clinical and/or research opportunities** with PSU and/or OHSU faculty.
- **Get involved with other pre-med students on campus** – joining the Portland Pre-Health Society (<http://www.pps.pdx.edu/>) is a great way to start.
- **Take the MCAT only when you are fully prepared to do so.** This is not an exam to “take cold” for practice. You should do everything in your power to take it just once. You should have completed Principles of Biology, General Chemistry, Organic Chemistry, and Physics prior to taking the MCAT. Include MCAT study time in your academic planning. In 2009, the MCAT will be offered 28 times throughout the year (administrations take place in January, March, April, May, June, July, August, and September). See the following link for more information: <http://www.aamc.org/students/mcat/>
- **Submit the medical school application early** – ideally in June – before your last academic year at PSU (or in June after your final year at PSU if you want a “gap” year between finishing your undergraduate degree and starting medical school). Submit your application as early as possible without compromising the quality of your application. Visit a pre-med adviser at PSU to discuss the application process. You will need to begin to prepare for the application process in the fall of the academic year in which you plan to apply (don’t wait until a couple of months before you plan to submit your application to begin to prepare – that is too late).
- **Utilize free university resources** such as the pre-med adviser, Writing Center, and Career Center for help with your personal statement(s) and interview preparation.
- **Begin completing financial aid forms in January; the priority filing deadline is March 1.**

OHSU MD Program Contact:

Office of Education and Student Affairs – OHSU phone: 503-494-8228
3181 SW Sam Jackson Park Road fax: 503-494-3400
Portland, OR 97239

Please note that OHSU School of Medicine does not evaluate coursework prior to application; they will direct inquiries regarding fulfillment of OHSU prerequisites to the PSU pre-health advising office in the College of Liberal Arts & Sciences Advising Center.

Western University of Health Sciences DO Program Contact:

College of Osteopathic Medicine of the Pacific
Jeannie Davis - Admission Officer
E-Mail: Jeannie Davis
Phone: (541) 451-6989