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. The variety of specialties and opportunities in medicine is wide-ranging and diverse.

Pre-medical students at PSU are those who wish to become allopathic physicians (MDs) or osteopathic physicians (DOs). Allopathic (MD) and osteopathic (DO) physicians have the same rights and responsibilities in all 50 states and their training is very similar. Allopathic medicine is rooted in the practice of using treatment and remedies to reverse the effects of illness and disease. However, today’s allopathic physicians also typically use a preventive approach to medicine, emphasizing health promotion and disease prevention. Osteopathic medicine is rooted in a holistic philosophy with an emphasis on viewing the patient as a whole (mind, body, spirit) and understanding the way that structure influences function in the body. Like allopathic physicians, osteopathic physicians utilize remedies such as medication and surgery to reverse the effects of illness and disease; however, they are also trained in Osteopathic Manipulative Medicine (OMM) -- manual manipulation of the musculoskeletal system.

Allopathic and osteopathic schools of medicine require that applicants complete a specific set of prerequisite courses prior to enrollment and typically require that students earn a baccalaureate degree before matriculating to 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, Sociology
- 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 a C or higher be earned in all required preparatory courses. Admission to medical school is limited and extremely competitive. In 2014, allopathic medical school matriculants had an average non-science GPA of 3.65 and an average science GPA of 3.63. Osteopathic medical school matriculants in 2014 had an average GPA of 3.57.

Medical College Admissions Test (MCAT):
Medical schools also require students to take the MCAT. The MCAT tests students on biological and physical sciences and verbal reasoning. Starting in 2015, it will also test knowledge of social and behavioral sciences. 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 it with a pre-med adviser. Note that MCAT scores older than three years will not be considered by medical schools. The mean total MCAT score for allopathic medical school matriculants in 2014 was 29.7. The mean total MCAT score for osteopathic medical school matriculants in 2014 was 26.7.
Portland State University Pre-Medical Course List

Based on courses commonly required and recommended by medical schools, PSU recommends the courses listed below as a solid foundation for pre-medical students; successful completion of this course list will result in fulfillment of the prerequisites at many medical schools. However, students are responsible for researching the requirements at the schools in which they are interested and adding any necessary extra coursework. In addition to each school’s Web site, students may wish to utilize the Medical School Admission Requirements (MSAR) online publication and the Osteopathic Medical College Information Book as resources. In addition to completing the courses listed below, pre-medical students must also complete the requirements for a major as well as other graduation requirements.

<table>
<thead>
<tr>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Introductory College Math I (MTH 111) – 4 credits</td>
</tr>
<tr>
<td>• Introductory College Math II (MTH 112) – 4 credits</td>
</tr>
<tr>
<td>• Introduction to Probability and Statistics (STAT 243) – 4 credits</td>
</tr>
</tbody>
</table>

Note: If you place into a level of math higher than MTH 111 or 112, you should simply complete the higher level of math. Also note that some medical schools require from one to three terms of Calculus (MTH 251, 252, 253). Oregon medical schools do not require calculus.

<table>
<thead>
<tr>
<th>Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>• General Chemistry (CH 221/227, CH 222/228, CH 223/229) – 15 credits</td>
</tr>
<tr>
<td>Note: MTH 111 is the prerequisite for this sequence.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Organic Chemistry (CH 334, CH 335/337, CH 336/338) – 16 credits</td>
</tr>
<tr>
<td>Note: CH 223/229 is the prerequisite for this sequence.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Chemistry</th>
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</thead>
<tbody>
<tr>
<td>• Biochemistry (CH 350) – 4 credits</td>
</tr>
<tr>
<td>Note: CH 336 is the recommended prerequisite for this course.</td>
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<table>
<thead>
<tr>
<th>Biology</th>
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<tbody>
<tr>
<td>• Principles of Biology (BI 211/214, BI 212/215, BI 213/216) – 15 credits</td>
</tr>
<tr>
<td>Note: CH 221/227 is the pre- or co-requisite for this sequence.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biology</th>
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</thead>
<tbody>
<tr>
<td>• Genetics (BI 341) – 4 credits</td>
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<tr>
<td>Note: BI 213 is the prerequisite for this course.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physics</th>
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</thead>
<tbody>
<tr>
<td>• General Physics (PH 201/214, PH 202/215, PH 203/216) – 15 credits</td>
</tr>
<tr>
<td>Note: MTH 112 is the prerequisite for this sequence.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavioral Sciences</th>
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</thead>
<tbody>
<tr>
<td>• Psychology as a Social Science (PSY 204) – 4 credits</td>
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</table>

<table>
<thead>
<tr>
<th>Behavioral Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Psychology as a Natural Science (PSY 200) – 4 credits</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavioral Sciences</th>
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<tbody>
<tr>
<td>• Sociology for Health Sciences (SOC250) or Intro to Sociology (SOC 200) – 4 credits</td>
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<tr>
<th>English</th>
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<tbody>
<tr>
<td>Completion of University Honors (HON) typically fulfills the med school English requirement and completion of University Studies (UNST) typically fulfills some or all of it (students may need additional comp courses such as WR 323 or WR 333 but this varies by individual). Students in neither program (e.g. postbacs, Liberal Studies majors) should have a year of college English reflected on the transcript. Discuss w/ the pre-med adviser.</td>
</tr>
</tbody>
</table>
OHSU School of Medicine / Portland State University Articulation

Students interested in viewing how the course requirements on the OHSU School of Medicine (SOM) Web site articulate with PSU courses may wish to review the table below. Requirements are subject to change.

<table>
<thead>
<tr>
<th>OHSU SOM Prerequisite Courses</th>
<th>Equivalent PSU Courses</th>
</tr>
</thead>
</table>
| **Mathematics** - One mathematics course *(not including statistics)*. If you place into MTH 111, you will end up taking more than one math course, even though OHSU doesn't require it. This is because MTH 112 is a prerequisite for General Physics, which is required by OHSU. Statistics is a strongly recommended additional course. | • MTH 111 (4) – Introductory College Math I  
• MTH 112 (4) – Introductory College Math II is the prerequisite for physics.  
• STAT 243 (4) – Intro to Prob & Stats *(recommended extra course; cannot be used to fulfill OHSU's math requirement).* |
| **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 it is implied that the required prerequisite sequences in general and organic chemistry will have been completed in order to take the biochemistry course.) | • CH 221/227, CH 222/228, CH 223/229 (15) – General Chemistry *(MTH 111 is a prerequisite)*  
• 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)* |
| **Biology**: One academic year of general biology to include one genetics course. Laboratories are recommended. | • BI 211/214, 212/215, 213/216 (15) – Principles of Biology *(recommend CH 221 be complete prior to or concurrent w/ BI 211)*  
• BI 341 (4) – Introduction to Genetics *(take after completing BI 211-213 sequence)* |
| **Physics**: One year (regular or calculus-based) | • PH 201/214, 202/215, 203/216 (15) – General Physics w/ Lab *(Note: MTH 112 is a prerequisite)* |
| **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). | • Completion of University Studies or University Honors will satisfy these requirements.  
• If you did not complete these programs (e.g. you are a postbac student or Liberal Studies major), you must have taken at least one writing class and at least 5 quarters (terms) of humanities and/or social science coursework to fulfill this requirement. |

Other Notable OHSU MD Program 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 one is 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. Current minimums are a cumulative total GPA of 2.8. Minimum 2015 MCAT score 497. *(Minimum qualifiers are subject to change from one admissions cycle to the next.)*
- **Application deadline: October 15, but apply early** *(applying early is applying by end of June).*

OHSU School of Medicine MD Program Contact:
OHSU SOM Office of Admissions, Mail Code L102  
3181 SW Sam Jackson Park Road  
Portland, OR 97239

Phone: 503-494-2998  
Fax: 503-494-3400

*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 COMP-NW / Portland State University Articulation

Students interested in viewing how the coursework required by Western University of Health Sciences College of Osteopathic Medicine of the Pacific – NW (Lebanon, Ore.) articulates with PSU courses may wish to review the table below. Requirements are subject to change.

Prerequisite Coursework for Western University COMP-NW

<table>
<thead>
<tr>
<th>COMP-NW Prerequisite Courses</th>
<th>Equivalent PSU Courses</th>
</tr>
</thead>
</table>
| Math is not required by COMP-NW but at PSU, math is a prerequisite for both the General Chemistry and the General Physics sequences required by COMP-NW. | • MTH 111 (prerequisite for General Chemistry)  
• MTH 112 (prerequisite for General Physics) |
| One year of General Chemistry with Lab (min. 12 quarter hours) | • CH 221/227, CH 222/228, CH 223/229 (15) – General Chemistry (MTH 111 is a prerequisite for this course) |
| One year of Organic Chemistry with Lab (min. 12 quarter hours) | • 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) |
| One year of Biological Sciences with Lab (min. 12 quarter hours) | • BI 211/214, 212/215, 213/216 w/ Lab (15) – Principles of Biology (recommend CH 221 be complete prior to or concurrent w/ BI 211)  
• BI 341 (4) – Introduction to Genetics (take after completing BI 211-213 sequence) |
| One year of Physics with Lab (min. 12 quarter hours)  
Can be regular or calculus-based | • PH 201/214, 202/215, 203/216 (15) – General Physics w/ Lab (MTH 112 is a prerequisite) |
| College English (min. 9 quarter hours) | • Completion of University Studies or University Honors may satisfy this requirement. Discuss with a pre-med adviser to see if you need to take extra WR classes.  
• If you are a Liberal Studies major or a postbac student who earned a BA/BS elsewhere, you must have taken three quarters or two semesters of literature or writing (ENG or WR). Rhetoric will also count toward this req. |
| Behavioral Sciences (min. 9 quarter hours) | • At least three quarters of behavioral science from departments such as PSY and SOC. |

Western COMP-NW recommends but does not require the following additional courses:

• Genetics (BI 341; note that the prerequisite is completion of BI 211-213)  
• Biochemistry (CH 350 or CH 490-492; note that CH 320/321 and CH 440 are prerequisites for CH 490-492)  
• Anatomy & Physiology (BI 301-303; note that the prerequisite is completion of BI 211-213)  
• Microbiology (BI 380; note that the prerequisite is BI 334)  
• Immunology (BI 487; note that the prerequisite is BI 380)  

Other Notable Western COMP-NW Admissions Requirements:

• Minimum 135 quarter hour credits (90 semester hour credits) at the time of application, from a regionally accredited U.S. institution or its equivalent abroad. However, a BA or BS is strongly preferred and applicants without one are rarely admitted.  
• Majority of the prerequisite coursework should be completed at the time of application.  
• Eligible MCAT score (scores older than three years will not be considered).  
• International applicants are not considered at the Western COMP-NW (Lebanon) campus but are considered at the Western COMP Pomona campus.  
• One letter from a science professor and one letter from a physician (MD or DO only; DO preferred) must be included in your Health Sciences Advising Letter package.  
• Application deadline: February 1, but apply early (applying early is applying by the end of June).  

Western University of Health Sciences COMP-NW Contact:
College of Osteopathic Medicine of the Pacific-NW  
Jeannie Davis - Admission Officer  
200 Mullins Drive  
Lebanon, OR 97355  
E-Mail: jldavis@westernu.edu  
Phone: (541) 259-0214
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 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 begin collecting letters a year or two in advance of their application. It is recommended that you collect letters from your instructors (often 2 science and 1 non-science instructor is a good guideline), as well as from your supervisor in significant non-academic experiences, such as volunteer opportunities or shadowing. See a pre-medical adviser for more information about available options for collecting letters of recommendation, as well as tips on who to ask for letters of recommendation and how to go about building those relationships.

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.liaisoncas.com

Application Deadlines:
- The application cycle for allopathic schools begins in early June, while osteopathic medical schools now begin accepting applications in May.
- 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 “gap 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 (often 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 or visit [http://www.pdx.edu/clas/drop-in](http://www.pdx.edu/clas/drop-in) to find out drop-in advising hours, which can be utilized for quick questions or updates (or emergencies).

- **Ask for letters of evaluation (recommendation) as appropriate throughout your college experience.** Do not wait until right before you are applying to medical school to begin asking people to write letters of evaluation for you. Do not ask every single instructor you have had to write an evaluation letter for you. Be strategic about whom you ask to write letters for you and always provide letter writers with any information they may need to submit the letter. 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. Ask for the letter at the end of a class unless you expect to take more classes from the instructor; if so, wait to request the letter until you have taken the additional classes. You will also need to request letters from non-academic evaluators. 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, well in advance of when you plan to submit your application. Ask a pre-medical adviser for details on how to collect letters of recommendation in advance and other tips for helping you to prepare.

- **Personally read the Web site and Medical School Admissions Requirements (MSAR) or Osteopathic Medical College Information Book 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 Being a Physician, Intro to Osteopathic Medicine, Biomedical Ethics, and Morality & Healthcare.

- **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/](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. With the updated MCAT beginning in 2015, you will need to have additional coursework in Behavioral Sciences, Statistics, Genetics, and Biochemistry completed as well. Include MCAT study time in your academic planning. The MCAT is offered on at least 16 different dates during 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/](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 advisers, 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.