Medical School (MD or DO)

Allopathic (M.D.) & Osteopathic (D.O.) Physicians

Two types of programs are available to become a physician. The credentials needed to enter each field are similar. And both fields offer the same practice specialties.

Allopathic Physicians

Allopathic medicine is the type of medicine most familiar to people in this country. Allopathic medicine is a biologically based approach to healing. Physicians diagnose, treat, and work to prevent human illness and injury. They perform examinations, analyze medical histories, order and interpret diagnostic tests as well as developing treatment plans.

Osteopathic Physicians

A Doctor of Osteopathic Medicine (DO) is a physician who has similar training to that of MDs and practices in all the same specialties as MDs. The osteopathic philosophy, however, differs somewhat from allopathic medicine. Osteopathic medicine is especially patient oriented and believes in holistic treatment that considers the whole person including the mind, body, and sense of well-being of the patient. Osteopathic medicine also has another treatment modality—Osteopathic Manipulative Medicine (OMM)—which is a form of musculo-skeletal manipulation that is used both for diagnosis and treatment.

For the most part, the differences between osteopathic and allopathic medicine are historical. These days MDs and DOs practice side by side to take care of patients.

How do I become a physician?

Medical school programs (both MD and DO) are very competitive. Generally to gain entrance you must have good grades overall (shoot for a 3.6 GPA) and in prerequisite courses; high scores on the aptitude test for medical school (MCAT); letters of recommendation; and an interview are also required. Competitive applicants are well-rounded students with leadership skills and volunteer, research, and shadowing experience. An online application is required using an application system known as AMCAS (for MD programs) or AACOMAS (for DO programs). After completing a bachelor’s degree and being accepted into medical school, students will then complete 4 years of medical school. This is followed by 3 to 8 years of residency, depending on the specialization. MDs and DOs are licensed by the state after passing an examination. They must also pass board exams for certification in a specialty area. Becoming a doctor is a long and expensive process. Be sure to carefully consider whether it is the best path for you.

What prerequisite courses do I need?

Prerequisite courses vary only slightly between programs. Medical schools typically require 8 semester hours of several science sequences (see below). Of those 8 semester hours in science, 2 of those hours should be lab. Medical schools do differ on requirements such as math (usually calculus if required), English (often 1 year if required at all), social science/humanities courses. IU School of Medicine will begin requiring 1 semester or biochemistry, 1 semester of psychology, and 1 semester of sociology for the class starting in 2015 (the 2014 applicant pool).

All required courses must have a minimum grade of a C. The Center for Pre-Professional Advising can help you learn more about requirements.
Prerequisite Courses & Equivalencies at Purdue University
(Specific courses may vary depending on your major)

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<thead>
<tr>
<th>Course Requirement</th>
<th>Purdue Equivalent</th>
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<tr>
<td>1 year of Biology with labs (this is a minimum—you should take more)</td>
<td>BIOL 11000 &amp; 11100 or BIOL 13100 &amp; 23100/23200 or BIOL 23000 &amp; upper level biology including 1-2 hours of lab</td>
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<tr>
<td>1 year of General Chemistry with labs (also known as Inorganic Chemistry)</td>
<td>CHM 11500/11600 or CHM 12500/12600 or CHM 12300/12400 or CHM 136 or CHM 12901 (10900) [11500 credit exam needed for some schools]</td>
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<tr>
<td>1 year of Organic Chemistry with labs</td>
<td>CHM 25500/25501 &amp; 25600/25601 or CHM 26100/26200 or CHM 26500/26600 or MCMP 20400/20500</td>
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<tr>
<td>1 year of Physics with labs</td>
<td>PHYS 22000/22100 or PHYS 21800/21900 or PHYS 17200/27200 or PHYS 17200/24100</td>
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<tr>
<td>1 year of English</td>
<td>ENGL 10600 or ENGL 10800 PLUS upper level writing or literature course</td>
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<tr>
<td>1 semester of Biochemistry (no lab needed)</td>
<td>CHM 33300 or CHM 49000 or CHM 53300 or BCHM 56100 or BCHM 30700</td>
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*IU Med & Marian DO require as of Fall 2015

The MCAT is changing in 2015. To be prepared you will need some additional coursework beyond the typical medical school requirements.

Additional Coursework Needed for MCAT 2015 Preparation

<table>
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<tr>
<th>Course Requirement</th>
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<tr>
<td>Biology—Anatomy &amp; Physiology highly recommended for MCAT</td>
<td>BIO 20300/20400 or BIO 30100/30200</td>
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<tr>
<td>Psychology *IU Med &amp; Marian DO require as of Fall 2015</td>
<td>PSY 12000 at a minimum, PSY 24000, 20000, or 23500 could be helpful if time allows</td>
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<tr>
<td>Sociology *IU Med &amp; Marian DO require as of Fall 2015</td>
<td>SOC 10000 at a minimum, SOC 57200, 57300 or 57400 could be helpful if time allows</td>
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<tr>
<td>Statistics highly recommended</td>
<td>STAT 30100 or 50300 or PSY 20100 or SOC 38200</td>
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<tr>
<td>Additional Coursework</td>
<td>Any courses that improve verbal reasoning skills</td>
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Pre-Medical & Pre-Health Planning Seminar (BIOL 39600)

If you want a course that explains how the whole application process works, then BIOL 39600 is for you! Taught each spring, it is a 0 credit, 10 week course that covers the application process from start to finish.

Open to all majors.

Parallel Plans

Everyone applying to medical school should have a parallel plan—something they will do if med school doesn’t work out. Keep your options open. Your academic advisor and the Center for Pre-Professional Advising can assist you with this.
What else do I need to do before I apply?

Generally medical schools will expect to see that you have spent time observing a physician (shadowing). You also should have a record of service to others. Research, while not required, is viewed favorably. Health care experience, both hands on and observational, is important. Applying to medical school is expensive so you should plan ahead for the $1,000-2,000 of application costs.

The MCAT
The aptitude test for medical school is called the MCAT and is generally taken toward the end of the junior year in college. It currently covers general biology, anatomy and physiology, general (inorganic) chemistry, organic chemistry, biochemistry, and physics. MCAT 2015 will add an additional section on behavioral sciences including psychology and sociology. It will also take a more integrated approach to science and will expect an understanding both of scientific method and basic interpretation of statistics.

What is the job outlook?

The government has projected shortages of doctors in the next 30 years and medical schools are trying to include growing numbers of students. DOs should be especially in demand as shortages in primary care (in which many DOs choose to work) are projected to be a significant problem. While income varies by specialty, location, and hours worked, the median income for all MDs and DOs is about $166,000. According to the Bureau of Labor Statistics, job growth in medicine is expected to grow over the next 10 years by 24 percent.

Average Debt of Medical School Graduates
For the first few years of practice, accumulated student loans from medical school and undergraduate education may offset the higher income of physicians. Average student debt (including undergraduate debt) is $156,000.

Make sure this is the right decision for you before taking on this debt. A decision to enter medical school should not be taken lightly.

How do I apply?

Medical school application is a two-step process. First you apply through a web-based common application that is sent to the schools you designate. This is the primary application to medical school. The system for MD programs is called AMCAS and for DO programs it is AACOMAS. If you are graduating in 4 years, this is usually completed the spring after your junior year (generally they open in May).

After this initial application, the schools take over. You fill out additional information for each school. This is known as the secondary application. Interviews are scheduled after schools have reviewed your secondary application.

Early Application is Key!
This system has a lot of lag time in it. One of the easiest things you can do to help your application is to apply early (June). It allows you to handle the lag time and still be early in the cycle and you can deal with any problems. Many schools accept applicants as they go so applying early can make the difference between being accepted and not being accepted. You should completely ignore application deadlines and apply as early as possible. It really does make a difference!

Letter of Recommendation Service
The Center for Pre-Professional Advising offers a service that will store and distribute your letters of recommendation for you. You should collect your letters the semester before you apply. Stop by our offices and pick up your packet that spring to start your file. The process is easy and free!
Where can I find more information?

- [American Association of Medical Colleges](http://www.aamc.org) (includes info on AMCAS & MCAT)
- [TMDSAS](http://www.utsystem.edu/tmdsas) (for applications in Texas)
- [American Medical Student Association](http://www.amsa.org)
- [Student National Medical Association](http://www.snma.org)
- [American Association of Colleges of Osteopathic Med.](http://www.aacom.org)
- [American Osteopathic Association](http://www.osteopathic.org/)
- [Student Osteopathic Medical Association](http://www.studentdo.com)
- [Explore Health Careers](http://www.explorehealthcareers.org)

Programs in the state:
- [Indiana University School of Medicine](http://medicine.iu.edu)
- [Marian University College of Osteopathic Med.](http://www2.marian.edu/osteopathic-medical-school/Pages/default.aspx)

Some of the Pre-Medical Student Interest Groups
- Caduceus Club (Pre-Med Club) Alpha Epsilon Delta
- Pre-Med Honor Society
- Timmy Foundation (International Health)
- SHOTS (community service organization)
- Raising Aim (International Health)

General Preparation Timeline (based on graduating in 4 years)

**Freshman & Sophomores:**
- Go to class!
- Decide how you will handle your AP issues
- Approach your classes professionally
- Learn where to go for help in your courses
- Join a student organization
- Consider taking a reading comprehension course such as GS 294
- Get to know faculty—you will need recommendation letters from them later
- Look for research opportunities
- Start setting up shadowing opportunities
- Plan ahead for off campus study
- Read as much as you can—it will help you on your aptitude tests
- Look into becoming a student member of the professional organization in which you are interested

**Juniors:**
- Make sure you have the science courses needed for your aptitude tests
- Gather info about your aptitude test and create a plan of study
- Continue to gain healthcare experience
- By spring break, ask faculty, employers, supervisors for letters of recommendation
- Consider carefully whether you are entering the field for the right reasons
- Take MCAT
- Apply Early!! Many schools have rolling admissions and accept people as they go (apply summer between junior and senior year)
- Create a parallel plan—which should include how to strengthen your application if you have to apply again

**Seniors:**
- Complete centralized application during summer between junior and senior year
- Complete secondary/supplemental applications
- Prepare for interviews by keeping up on current news
- Be patient—this process takes a long time
- If you are not admitted, don’t panic. Decide on a course of action. If you are accepted—celebrate then start arranging housing, moving, and finances!