



MIT Academic Preparation for Application to Medical School

The MIT Committee on Prehealth Advising has provided the following information to guide MIT students on how to fulfill the academic requirements for admission to most U.S. medical schools. **Specific requirements may vary for a particular school; therefore, we suggest you also reference the [Medical School Admission Requirements \(MSAR\)](#) and review information directly from particular schools to which you plan to apply.**

REQUIRED COURSES:

General Biology with lab (2 semesters)
Introductory Biology (7.012, 7.013, 7.014, 7.015, or 7.016)
and one of the following:
Fundamentals of Experimental Molecular Biology (7.002)
Laboratory Fundamentals in Biological Engineering (20.109)
Experimental Molecular Neurobiology (9.12)
Biological Circuit Engineering Laboratory (20.129[J])
General and Organic Chemistry with lab (3 semesters)
Principles of Chemical Science (5.111 or 5.112)
or Intro to Solid State Chemistry (3.091)
and
Organic Chemistry I (5.12)
<i>Note: Some schools require 2 semesters of organic chemistry</i>
and
Laboratory Chemistry (5.310)
or Fundamentals of Spectroscopy, Synthesis of Coordination Compounds and Kinetics, and Macromolecular Prodrugs or Organic Structure Determination (5.351, 5.352 and 5.353)
Biochemistry (1 semester)
General Biochemistry (7.05)
or Biological Chemistry (5.07/20.507)
Physics (2 semesters)
Physics I (8.01) and Physics II (8.02) or equivalent
Math (2 semesters)
Calculus (18.01) and Calculus II (18.02) or equivalent
<i>Note: AP credit will be accepted for math. Some schools are also requiring a semester of statistics.</i>
English/Writing and Humanities (2 semesters)
Courses in writing and humanities that satisfy the CI-H requirement.



OTHER RECOMMENDED COURSES:

Taking some of the additional subjects below may provide additional breadth and depth in preparation for medical school. The list is not intended to provide an exhaustive list of courses that all premedical students should take, but rather, is provided to guide students in the selection of a few electives that may be of interest.

Biology
7.03 Genetics
7.06 Cell Biology
7.20 Human Physiology
Chemistry
5.08 Biological Chemistry II
5.13 Organic Chemistry II
Math/Statistics
18.05 Introduction to Probability and Statistics
Psychology
9.00 Introduction to Psychology

Note: Other health profession programs, such as dentistry and veterinary medicine, may require additional prerequisite courses. See the school/program web sites for more information.

If you have questions about prerequisite completion, please meet with an advisor by scheduling an appointment in [Handshake](#), or emailing prehealth@mit.edu.



Frequently asked questions regarding premedical requirements:

Q: Is one full year of organic chemistry required?

A: Medical school requirements have recently been changing at a number of schools. In particular, many schools now no longer recommend a second semester of organic chemistry, but instead, require a semester of biochemistry. The MIT requirements listed above are in accordance with these revisions. However, during this transitional time, some schools may still require or prefer a second semester of organic chemistry. MIT students can fulfill this requirement by taking 5.13, a second semester course emphasizing organic synthesis. Some MIT students have also fulfilled the requirement of a second semester course in organic chemistry after 5.12 by taking Chemistry 27 at Harvard University, a course offered in the spring that is focused on organic chemistry in biological systems.

Q: Is a full year of general and/or inorganic chemistry required?

A: The MIT Committee on Prehealth Advising recommends that the MIT course sequence of 5.111 or 5.112 (3.091 is also an acceptable alternative although the Department of Chemistry recommends 5.111/5.112 as optimal preparation for 5.12), 5.12, and a semester-long lab course (either 5.310 or 5.35 sequence) should satisfy the general and organic chemistry requirement for most medical schools, including the laboratory requirements. A course in physical chemistry (e.g. 5.60) may serve as an elective course for schools that require additional chemistry, but in general, is not required for admission to medical school.

Q: Can I take prerequisites abroad?

A: No. Medical schools will not accept international coursework, so you should not take any of the prerequisites at an International college or university.

Q: Can I take prerequisites on pass/no record?

A: With the exception of any courses completed during the first semester of your freshmen year, applicants should not take prerequisites on pass/no record. This means that we recommend that you not take any prerequisites under the new [Experimental Grading Policy](#) that extends the pass/no record option beyond the first semester.

Q: Do any medical schools require the release of freshmen year hidden grades?

A: No

Q: What if I received AP credit for prerequisite courses?

A: For the most part, as long as you took an upper level course in that same discipline at MIT or another 4 year university you should be ok. (For example, if you received AP credit for 8.01, but took 8.02 at MIT you will be fine. Or, if you received AP credit for 8.01 and 8.02, but took an upper level physics or applied physics course [i.e. engineering] you should be fine.) Unique cases should talk with Prehealth Advising.

Q: I took an ASE for one or more of the prerequisite courses. How will the medical schools view these grades?

A: ASE grades appear on your official transcript, so you will enter them into the AMCAS application just like any other course (noting CLEP as the special course type), and they will be viewed just like your other course work. While ASE grades do not factor into the MIT GPA, ASE grades will factor into the AMCAS GPA.



Q: I took a prerequisite(s) at another college other than MIT, but MIT did not accept the credit. Do I need to retake it at MIT?

A: If the course is not required for your MIT degree then no, you do not need to retake the course. When you apply to medical school you will be asked to present coursework taken at every U.S. college or university you've attended.

Q: Can I take prerequisites after I've submitted my AMCAS application?

A: While it is preferred that you complete all of the prerequisites before submitting your primary application, applicants can take the final prerequisites during the year of application/interview. When you fill out your AMCAS application you can include courses that you intend to take in the coming year. This lets the school know of your plan to complete these courses before matriculating.

Common MCAT Questions:

Q: What courses should I take pre-MCAT?

A: We recommend completing the required courses prior to taking the MCAT. Some recommended courses may also provide helpful additional preparation.

Q: When should I plan to take the MCAT?

A: Summer and IAP are the most popular times to test. You should test no later than the spring of the year you intend to submit your application. It is preferred that you take the exam only once, when you are most prepared and ready. All attempts are on the record and seen by medical schools.

Q: What about changes in the "new" MCAT?

A: In addition to revised content regarding the natural sciences, the new exam requires test takers to demonstrate competencies in scientific inquiry and reasoning, research methods, and statistical analysis as applied to the social and behavioral sciences. The change is in acknowledgement of the important role of socio-cultural and behavioral determinants of health and health outcomes.

Q: How can I learn more about the MCAT? Where can I find prep materials?

A: Applicants should review the MCAT information provided by the [AAMC here](#)