Preface to First Edition

Many of you who have taken an interest in the premed track may already have a general idea of what you generally should (and should not) do. But what makes this guide different from the countless other guides out there is that this guide is specifically tailored to the needs of the MIT premedical student body. While it does not provide all the details of medical school admissions criteria, this guide offers a more personalized, down-to-earth glimpse of premed track at MIT.

This guide is written by your fellow students. While we are not members of a medical school admissions committee, we as your peers do understand what an arduous process applying to medical school can be for a typical MIT student. Hence, this guide is designed to provide an informational resource for the MIT student interested in medicine and wondering how to successfully navigate through MIT, such that their undergraduate education will strengthen their medical school application and prepare them for the years ahead in medical school. Not only is everything converted to user-friendly course numbers and acronyms, but also the advice and tips come straight from your peers or graduates of MIT.

Doubtless there will be improvements on what is presented on the following pages of this “first edition”, but we strongly feel that this is an auspicious start to something that will benefit many. Feedback is the key to improving this endeavor and it is what ultimately adds to the uniqueness of such a guide. We at AMSA welcome any constructive comments you may have. Read the guide and take whatever advice you find helpful. Being premed can be challenging here at MIT but we hope the following will make your life a whole lot less uncertain or stressful. Enjoy!
Dear Reader,

Welcome to the first edition of the premed guide published by the MIT Premedical Chapter of the American Medical Student Association. For the last 50 years, AMSA has been serving and supporting hundreds of physicians-in-training across the nation in a variety of issues from healthcare advocacy to patient rights to management and maintenance of health. We, as premedical students are indeed physicians-in-training and AMSA along with MIT Premed AMSA are here to support us in our aspirations to become physicians.

MIT Premed AMSA is committed not only to helping you get into medical school but to making you a better physician. By becoming a member of our chapter, you will receive tremendous benefits—support from other premeds undergoing the same rigorous process as you are, an opportunity to network with other premeds, medical students, and physicians across the country, a chance to hear speakers at our general body meetings discuss current issues in healthcare, potential career options in medicine, and the medical school admissions process.

As a club, we participate in medically-related community service through our volunteering programs at, but not limited to, giving time at local hospitals, mentoring children at local schools, and volunteering time at bone marrow drives. Our organization has a number of committees in which students can participate, including lecture series, social, newsletter, shadowing, community service/local project grants, and alumni relations.

Premedical students at MIT can feel overwhelmed as the medical school admissions process is undoubtedly challenging. Your involvement in MIT AMSA will provide you with support and will expose you to the world of medicine. We will help you take the necessary steps to face the challenges in pursuing a medical career.

If ever you have any questions or concerns, feel free to visit our website http://web.mit.edu/amsa/www or contact us by e-mail at amsa-exec@mit.edu.

Enjoy the first edition of the MIT Premedical AMSA's Premedical Guide.

Sincerely,
the Publishing board
MIT Premedical Chapter of AMSA
Chapter 1: So you want to be a doctor?

Why You Shouldn’t Be a Doctor:
The wrong reasons for pursuing a career in medicine

Medicine can be a very rewarding career, but becoming a doctor is a long and arduous process and means different things to different people. You should think long and hard before you commit to the premed track and go through with the whole medical school application process. If you are uncertain about whether you want to pursue a career in medicine, we hope this guide and a realistic view of this career can urge you to think about whether medicine is right for you. This is not meant to discourage you from practicing medicine, but is more of a “reality check” for those who may have an unrealistic vision of what it means to be a doctor.

You’ve probably already heard this line before: “Medicine is just not what it used to be.” But what does that mean? Here is a fictional story* to illustrate:

A man suffering from severe chest pains is taken by ambulance to the hospital. He receives certain standard tests, including a cardiogram, then is moved to the Intensive Care Unit, where his vital signs are continuously monitored. His doctor thinks that a further test, an angiogram, is urgently indicated; this test would outline the arteries of the heart and indicate if one is to close off, an event that could be fatal. The hospital administrator protests: “An angiogram is expensive. It costs around $1000, about 20% of our total fee for this man, and who knows what else he’s still going to cost us? You can’t prove this test is necessary. Let’s wait and see.” The test is not given. Several days later, the administrator comes to the doctor: “You’ve got to get this man out of the ICU. It’s costing almost $800 per day, and he’s been here now for five days. What with everything else, we’ve already spent almost the whole payment we get for him.” The doctor thinks that the patient still desperately needs the specialized nursing available only in the ICU. The administrator overrules him. “There’s an area of judgment here,” he says, “We’ll just have to take a bit of a chance on this case.”

*quoted from The Voice of Reason, by Peikoff and Leonard

This may be a fictional story, but if you’ve read the newspaper articles or have spoken with doctors, it is not too far from the truth. The very act of saving people is not as simple as performing tests and writing up check-ups (and not that this is easy either). The bureaucracy itself is enough to discourage a lot of people from the start. Of course, this is not the whole story because there are doctors who do put up with administrators. However, these doctors must jump through many more fiery hoops and making many friends along the way is very necessary. The bottom line is that being a doctor can be more frustrating than you can think and that it really takes a sincere devotion to overcome any hurdles to treatment of patients.

Secondly, if you are not ready to make such a commitment in terms of time, energy, and emotion, you will find your life and job to be quite difficult. Your family life may very well be compromised in your pursuits to being a caring doctor. There is only so much time in a day for patient care and personal time. Make sure that you are clear in your goals in life. If you want to be doctor as well as a parent, you must be ready to face a hectic schedule.

Next, the job doesn’t even pay that well. Several Harvard medical students have been known to drop medicine altogether and go into investment banking instead. It is easier for students at MIT to obtain high-paying entry-level job in the sciences or engineering. Realistically, while some of your peers are climbing up the corporate ladder in their respective engineering jobs, you as a medical student may be climbing up the stairs of some library on a Friday night to study. And this doesn’t even factor in that you will most likely be in considerable debt when you are finally finished with your education. Going to med school is like paying for your coveted MIT education all over again. Take our local medical schools as examples: just with tuition alone, Tufts and BU cost about $36,000 a year, and Harvard costs about $27,000 per year. But don’t forget about all the little fees, transportation cost, and most importantly, the cost of living (room and board or apartment rent).

Of course, even if you manage to navigate your way through these treacherous waters, lightning may still strike with a malpractice suit. An increase over the years in this type of litigation certainly doesn’t portend well to our job stability. Granted, risk is part of life and there are risks taken in our lives all the time, but who knows if all it takes is one slip-up to ruin your reputation and even your job.

If all this doesn’t deter you, you may have something going in this business they call medicine. In that case, read on, and we hope that you gain as much as possible from others who have walked down this long and winding road.
Chapter 2: Requirements, Requirements, Requirements...

Premed courses at MIT

Certain classes are required for admission to medical school. In addition to your GIRs (General Institute Requirements), classes and courses in your major, you must also fulfill the general academic requirements for medical school. These include:

- One year of physics (with lab)
- One year of calculus
- One year of biology with lab
- One year of general chemistry with lab
- One year of organic chemistry with lab
- One year of English literature and/or composition

Fortunately for you, MIT requires almost all of these classes as GIR classes anyway. However, you should check the requirements for each school to which you wish to apply for a complete set of requirements. For example, some medical schools require behavioral science classes such as psychology. The Medical School Admissions Requirement guide, updated every year, is a good source of this type of information and is available through the American Medical College Association (AMCAS) and through AMSA. To help you with selecting your GIRs, here is a list of premed classes with summaries and short reviews.

**Biology**

Many students come in with AP credit for biology 7.01. However, 2 semesters of biology and 1 semester of biology lab are required. 7.01x and 7.02 are sufficient to fulfill the requirement, but we suggest one additional biology class if possible.

**7.012, 7.013, 7.014 Introductory Biology—choose one (12 units GIR)**

All 7.01x classes cover the same core materials, including the principles of biochemistry and genetics, molecular biology, and gene regulation. The differences are as follow:

7.012: Cell biology, immunology, neurobiology, and human physiology
7.013: Application of fundamental principles in studying cells, genetics, diseases, infectious agents, cancer, the immune system, and evolution.
7.014: Application of fundamental principles in studying microorganisms and their roles in evolutions and renewal of the biosphere

**7.02 Introduction to Experimental Biology—required (15 units)**

This is the introductory biology lab with four modules: genetics, protein biochemistry, recombinant DNA methods, and development. The lab meets twice a week for approximately 4-5 hours each in lab with a one-hour lecture twice a week. This is a time-consuming class—you can finish as late as 6:00pm on some days early on in the semester, but you may also finish early in the development module. This is a very good intro class for any type of UROP in biology and a prerequisite for Project Lab (course 7 only). Take this class early if you are course 7, but otherwise take it when you have time and are not taking a heavy load. Grading: there is either an exam or a lab report at the end of each module. Grades are based on the exams and lab reports as well as lab notebooks, techniques, and professional behavior.

**7.05 General Biochemistry (spring only)—(12 units)**

7.05 is strongly recommended for HST and other MD/PhD programs even though your PhD work might not be in biological sciences. This course covers cellular respiration and the synthesis of DNA, RNA, and proteins in great detail. The exams are open book and open notes, and the class is not based on a bell curve. The last exam is during finals week, but it is not a cumulative final. Some people take 5.07 in lieu of 7.05—see the section on Chemistry for details.

**Chemistry**

Since MIT no longer accepts a 5 on AP Chem for 5.11 credit, all students must take the introductory class. One year of general chemistry and one year of organic chemistry, with lab, are required.

**5.111 or 5.112 Principles of Chemical Science, or 3.091 Introduction to Solid-State Chemistry—choose one (12 units GIR)**

These are the introductory chemistry class. If you have taken APChem and feel confident about chemistry, take 5.112. If you are more into engineering, 3.091 might be a better course for you. 5.11 (back in the old days) is infamous for long and arduous tests, and so we would suggest taking any of these classes freshman year and use the P/NR to your advantage.

**5.12 Organic Chemistry I (12 units)**

This class is taken by anybody and everybody. The subject material is introductory, but the lectures are usually very well organized. More emphasis is placed on synthesizing and solving “organic puzzles” and “road maps” as opposed to memorizing reactions. Most students take it during freshman or sophomore year.
5.13 Organic Chemistry II--12 units (spring only)
Now is the time to learn about more chemical reactions than you will ever care to know. As a continuation of 5.12, 5.13 draws on basic principles (i.e. nucleophiles, substitution/elimination reactions, etc.) of organic chem, except far more reactions are introduced. Students claim that the memorizations aren’t that bad, but it is questionable whether students actually “learn” everything. Beware of the first portion of the class dealing with spectroscopic techniques, which are largely unfamiliar to most students.

5.07 Biochemistry I--12 units
As of this edition, 5.07 will be taught by Prof. Essigmann and Prof. Kemp in 2001-2002. Students have consistently praised Essigmann’s detailed and illustrative board technique. Essigmann clearly puts in a lot of work to make his lectures interesting and stimulating. 5.07 covers the whole gamut of biochemistry and for this survey-ish reason, some students have spoken unenthusiastically about it. This can be taken in lieu of 7.05.

5.310 Introduction to Chemical Experimentation--12 units
All of AP Chem or 5.111/5.112 you’ve come to love shows up in this lab class. Except for course 5 students, 5.310 is sometimes taken late in the game (senior year) because of substantial lab requirements for other majors. Lab is TR1-5 or MW1-5, with Friday being the make-up day. There are also 2 one-hour lectures. There are lab reports and quizzes, but in general this is known to be a relatively light class—many people can do two day’s worth of lab work into one day.

5.60 Thermodynamics and Kinetics--12 units
If possible, take 5.60 in spring term of your freshman year. 5.60 in the spring is supposedly easier, whereas the fall class is smaller but more intense. It’s not a particularly hard class, but the concepts and problem sets get abstract and difficult quickly. The popular mentality for 5.60 is take it and then never look back again.

Calculus
One year of calculus is required. Any 18.01/18.02 combination (18.01, 18.013, 18.014, 18.01A; 18.02, 18.023, 18.024, 18.02A) can fulfill this requirement. MIT also requires 18.01/18.02 (any combination) as core classes, so again, get these out of the way.

18.03 Differential Equations
Many students take this class even though it is not required for medical school. This is due in large part to the mathematically-rigorous courses required for many majors. MD/PhD applicants are also strongly encouraged to take 18.03.

Humanities Courses
Ah, the HASSes!! Every MIT student needs to take 8 (at least) HASS courses, including 3 HASSD (HASS-distribution) classes. What HASSes should you take? Here are some frequently-taken courses:

9.00 Introduction to Psychology (Fall, HASSD-4)
Some medical schools actually require an introductory class in behavioral and social sciences, so 9.00 wouldn’t be a bad choice for a HASS and premed requirement. The lectures are almost always exciting, especially when they cover the abnormal sides of psychology. Students, however, are less enthusiastic about the exams, which are verbatim regurgitations of lecture material and textbook memorization.

English
You need to take two semesters of English literature or composition to demonstrate your ability to communicate with others in writing. You can take either two Writing classes, two Literature classes, or one of each category. The following classes are generally accepted:

Writing (21W)
21W.730 Expository Writing (Fall/Spring, CI-HW, HASS, Phase 1)
21W.731 Writing and Experience (Fall/Spring, CI-HW, HASS, Phase 1)
21W.734J Writing About Literature (Fall/Spring, CI-HW, HASS, Phase 1)
21W.735 Writing and Reading the Essay (Fall/Spring, CI-H, HASSD-1)
To tackle your premed classes along with your major and other commitments at MIT, it is a good idea for you to draft your personalized “Plan”—a four-year schedule of classes, activities, and to-do’s you need to complete your premed requirements. There are also some sample schedules, but some aspects are obviously more flexible than others based on your major and you should develop your own plan.

**Freshman Year: Never too early to start**

The big thing here is: Use your P/NR status wisely—this is the year you can explore different majors and find one of your interest without too much penalty in your grades.

- Start taking GIR classes that are also premed classes

Examples: 8.01, 8.02, 18.01, 18.02, 7.01x, 5.11x/3.091
Some people argue students should leave GIRs until later, because these GIRs are intro level subjects and are easier to complete. Consider doing your physics and calculus classes early on, as well as some of the biology, chemistry, and English classes.

- Engage in extracurricular activities

This is traditionally the year you will have the most free time for activities. Play a sport. Finish your PE requirements. Join some clubs and groups on campus. The key is to look for the activities that interest you the most and what you want to focus on in the next three years.

**Summer after Freshman Year**

This is the summer when you can have some fun! However, you should still do something meaningful—maybe even something you can talk about in your personal statement in the future. Your options:
- Since you have only taken the required classes, it might be more difficult to find a challenging summer internship. If you really want an internship, start searching EARLY. MIT’s Freshmen/Alumni Summer Internship Program (F/ASIP) have successfully found good summer positions for its participants. Application for F/ASIP is due during IAP.

- Other summer jobs: You don’t have to work as an intern. There are other summer jobs out there that can be rewarding and challenging. Some people choose to work as summer camps, for example. A good website to search for a camp position is www.campstaff.com.

- Volunteering: Some people also choose to volunteer in the summer. This is a convenient time if you want to volunteer in a hospital, because hospital volunteer services usually require you to work four hours a week during the semester, and you might be too busy during the school year to be committed to volunteering in a hospital. Remember that medical school admissions committees (adcoms) know that almost all applicants complete volunteer work at a hospital, so you want to be committed to the volunteer work and stand out from other applicants.

Sophomore Year: Get your act together!

Your grades in sophomore and junior years will be the most important grades from college on your application. This is also your first year on grades, so don’t lose sight of what you need to accomplish!

- Finish more GIRs and premed classes
- Start completing classes in your major
- If you are thinking about taking the MCAT in August of the following summer, you should complete the premed classes that are helpful in studying for the test. See the MCAT section for more details.
- Narrow down your activities! Don’t spread yourself too thin with too many activities. Medical schools are looking for well-rounded individuals who are very active and involved on campus AND have good grades. You don’t want to do too many activities and then suffer in both your grades and your contributions to each of your activities. Pick 2-5 clubs, groups, and activities that you are passionate about, and focus on them. Try to get a leadership position to keep you involved.

- Get a UROP. Take 7.02, and then find a UROP to gain some experience in research. Or, find someone who is willing to train you if you have no prior lab experience. Also keep in mind that the UROP does not have to be in biology or chemistry; a UROP in your major is perfectly fine. While not every MIT premed is on the MD/PhD track, lab experience other than lab courses is generally favored.

- Sign up for a premed advisor in the spring. Your premed advisor has experience in advising premed students through the medical school application process. He/She is a very good source of information and answers to your med school questions. Advisors can be physicians, professors, and administrators, depending on your interest and lottery. See the section on Recommendations for more details.

- Start thinking about topics for your personal statements and people for recommendation letters.

- Consider shadowing physicians to get a sense of what medicine is really like.

Summer after sophomore year

This is the first opportunity for you to take the MCAT. Student often asks if they should find a summer job if they are also taking the MCAT. The answer is, some people do and some people don’t. This is the summer where you can potentially find good internships. Again, START EARLY! This is also a good time for you to start a UROP if you are going into medical research, or if you want to do a UROP for Project Lab (if you are course 7). Some people find MCAT to be too overwhelming for them to work full time as well, but some people find their summer jobs to be a good disciplinary tool—See the MCAT section for more information.

There are many premed summer programs at other universities (examples: Yale, Duke), but the deadlines for those are usually early February or March, or some as early as January. And again, you can also choose to find a volunteer position.
Junior Year: Get in High Gear!

This is undoubtedly the most stressful and important year for you. You are taking advanced classes in your major, getting very involved with your activities, and putting together your portfolio for medical school applications. Do not lose sight of your goals and keep up the good work!

- Personal Statement—get an early start
  Sounds easy right? This is one of the parts in your application that sets you apart from other applicants and tells the medical schools why they should choose you. See the section on personal statements for more tips.

- MCAT in April
  You should take the MCAT in April if you have not already done so. It is a good idea not to wait until the summer before senior year.

- Finish your premed requirements

- Open your application file at the MIT premed office by the beginning of your spring term! Having a premed advisor does not mean you have a file at the premed office! The file will contain your MCAT scores, recommendation letters, and your official transcript.

- Obtain letters of recommendation
  Ask the recommenders at least 1 month in advanced, and then give them plenty of time. See the separate section on recommendations.

Summer before Senior Year: Application Time!

Enough said? Get those pens and word processors ready for the piles of applications!

- Request non-AMCAS school applications.

- Complete the AMCAS application online.
  June 1 (check with AAMC)—begin AMCAS submission

- Keep your application file information updated, and check with the premed office to determine when your letters are mailed to schools.

- Begin completing your secondary applications.

- Arrange shadowing opportunities with physicians if possible—at this point you want to know what it is like to be a doctor, and this can be helpful with your interview questions.

- Be informed about current issues in medicine, both in research and in public health topics—helpful with interviews.

- Continue with your activities.

- Research about financial aid options for medical school costs.

Senior Year: It ain’t over until you get in!!!

- Prepare for your interview!
  Arrange mock interviews with your premed advisor and the staff at the premed office.
  Attend workshops on interview techniques.

- Do your homework on the schools you are interviewing at!! Research in depth on these medical schools—academics, student life, faculty, curriculum, clinical years, financial options… You want to have questions for the interviewers.

- Continue to be informed about current medical news

- Keep your premed advisor and premed office updated with your progress

- Remember to thank your advisors and recommenders!

- It would be great if you can fill out the questionnaires provided by the Premed Office as a feedback for future MIT med school applicants. It would be even more fantastic if you can come and talk to MIT AMSA members at our annual senior reflection panel/mixer.
Chapter 4:  
What do you enjoy doing?  
Life Outside the Classroom

**Community Service**

There are many opportunities to do community service at MIT. There are numerous one time activities that are often advertised through e-mails or posters around campus. However, it is probably in your best interest to choose one main community service activity and show dedication to it. You will get more out of the experience and demonstrate to medical schools that you have commitment.

Hospitals are good places to volunteer. Most people volunteer a few hours a week, sometimes more. Opportunities vary a great deal—you can be assigned to read to children in the waiting room, be a greeter, or move supplies around just to name a few. Many times, however, interaction with patients is minimal due to the inexperienced nature of the volunteer and issues of patient confidentiality.

Volunteering does not have to involve medicine, however, but opportunities that require human interaction are a plus (as opposed to desk jobs or raising money for a charity—not that these are less than ideal volunteer opportunities, however) because it is important for a doctor to be able to interact well with his or her patients. Teaching is a great way to interact with people. There are many programs on campus that can get you involved. The High School Studies Program (HSSP), SPLASH, ESP, LINKS (through the MIT Public Service Center), and Alternative Spring Break teaching trips are just a few ways to get started. In addition, the MIT Public Service Center has fellowships throughout the year and IAP that deal with teaching and helping out in Cambridge public schools.

Working in soup kitchens, homeless shelters, and nursing homes are other alternatives. Other activities may include Habitat for Humanity, Project HEALTH, and CommuniTech (you can find out about all these activities through the MIT Public Service Center). However, keep in mind that you should not choose to volunteer somewhere just because you will think it will look good on your resume and med schools will like it. You should be volunteering because you want to, and that way, you and the people you are helping will benefit the most.

**UROP**

It is encouraged but not required in terms of being premed that students conduct research during their undergraduate career. You are fortunate that MIT supports such research activity for students and it is usually beneficial to obtain some real application of material gained in class. Students often wonder or ask whether medical schools look for certain types of research, namely, medically or biologically related. While it may be something of a bonus to talk about during an interview or on the application, research in the biological or medical sciences is not what is really important about your research. Medical schools specifically look to see if you have gained some critical thinking and problem-solving skills as a researcher. They are more interested in the way your mind works when confronted with a problem. If these skills can be demonstrated within any context of research, you will have a definite advantage over others who do not have such experience.

So you want a UROP now. Keep a few things in mind: research because you are actually interested in the subject. Interviewers can tell if you were simply a glass washer or a reluctant lab robot. Your enthusiasm in your research not only increases your productivity and satisfies your curiosity, but it also (and this is what everyone remembers) gets that extra gold star from admission committees. Secondly, get to know your UROP mentor well. Keep him/her up to date on your progress and discuss how improvements can be made. A lot of times it is the mentor who imparts sage advice on the secrets to doing good research. And, ideally, in the end you will have yet another strong recommendation for your file! Finally, you don’t have to “publish” per se to win the hearts of the admissions committee. It’s always nice if you have something substantial to show for your 13-odd months of lab, but remember, science is very fickle and even great researchers have to work long and hard to get publishable results. As long as you come out of UROP more like a scientist than before, you have fought half the battle.

**Student Activities, Student government**
MIT offers a unique and eclectic variety of student groups: academic societies, arts groups, ethnic/language groups, independent living groups and Greeks fraternities and sororities, political organizations, publication groups, religious groups, student government organizations, etc. With the choice of joining any of these groups, one may wonder which activities are favored by medical schools and which aren’t.

In many ways, this is the wrong approach to take on deciding which activities to do during your undergraduate career. The most important things to remember, as medical school admissions counselors often state, is to participate in activities that interest you and make you happy—that keep yourself balanced with your academics. Your extracurriculars should round out your overall curriculum. For example, if your course of study is in the sciences, you might want to keep up participation in theater, the yearbook, or student government, just a few of many examples.

Medical schools seek leaders among student bodies. If you are able to show medical schools you are a natural leader through leadership positions in your activities, you not only demonstrate your leadership skills but stand out as a candidate; instead of saying, I participated on the yearbook staff, it’s much more interesting to say, I led the yearbook staff in our new artistic conceptual design of the front cover.

No matter the activities in which you choose to participate, join activities that make you happy, that you like doing, and your natural enthusiasm for these activities will demonstrate unique and wonderful elements of your personality to the admissions committee.
Chapter 6: MCAT—“the test”

Most people shutter at the thought of MCAT (medical school admissions test). MCAT is a standardized test designed to assess medical school applicants’ knowledge and reasoning skills. The test has four sections: biological science, physical sciences, verbal reasoning, and a writing sample.

When should you take the MCAT?

MCAT is offered in April and August every year. Students who intend to attend medical school right after graduating from college should take the MCAT by August after junior year at the very latest. Be aware that MCAT scores are good for three years; if you want to take time off (for more than a year) between graduating from college and applying medical school, you should take the MCAT later so that you don’t have to take the MCAT twice.

April or August?

You should take the MCAT when you feel you are ready to do well on the test. There are advantages and disadvantages in taking the MCAT in either April or August.

August MCAT. Many MIT students choose to take the MCAT in the summer, usually the summer after sophomore year. Taking the test in August means that you don’t have to worry about studying MCAT while attending classes and completing exams, papers, and projects for classes. Taking advantage of the fact that MIT is not in session can help you concentrate in studying for the test. If you are not working full time in the summer, you will also have a lot more free time to study for the test.

Now, the disadvantage: it is very tempting to procrastinate in the summer. Depending where you are in the summer, you might have friends in the area who are eager to enjoy the weather and have fun. Since you have more free time in the summer, you will be tempted to say: “It’s okay if I don’t study tonight since I have all week.” Don’t get us wrong—you should NOT study 24 hours a day for the MCAT. You need to take breaks and go out with your friends as a way to relieve the stress too. Just watch out for that little worm of procrastination and don’t let it get to you too much, especially the few weeks before the MCAT.

“Should I get a job and take the MCAT in the summer?” Some people find that having a full time or a part time job keeps them disciplined in terms of studying. Having a full time job might mean you will be working 9 to 5, maybe attending a prep class from 6 to 9, and then go home to study more or crash. However, work keeps you on a regular schedule and makes you aware that you cannot procrastinate on weeknights if you want to relax on weekends, etc. Part time jobs are great, and some people choose to volun-

teer instead of working for pay.

April MCAT. The obvious downside to taking the MCAT in April is that school is in session. Depending on the classes you are taking in the spring, studying for the MCAT at the same time could be overwhelming. But many people still take it in April and, with good time management and preparation, do very well on the test.

Where should you take the MCAT?

Where you want to study and take your MCAT largely depends, obviously, on what you are doing besides MCAT in the summer. What might come as a factor in consideration is the number of people taking the MCAT. For example, Boston testing location will host nearly two hundred students for the MCAT, whereas a testing center in a smaller suburb may only host twenty or thirty students. Where you can study better is also an important factor for some people. Some students study better at home over the summer because of less distraction, but some find more distractions at home because of old friends and gatherings.

What materials are covered on the MCAT? What premed classes are beneficial in preparing for the MCAT?

Biological sciences: Among the classes you should take are 7.012 or 7.013 and 7.05. There aren’t many MIT biology classes that would actually help you on the MCATs. Since the MCAT covers mostly introductory topics, however, you shouldn’t worry about it. MIT tends to stress different aspects of biology (such as molecular biology, genetics) than the MCAT does. The MCAT has a lot of anatomy and physiology which are not covered in MIT’s introductory bio classes. However, these topics usually just require memorization and are not too hard to pick up. This section also covers organic chemistry; 5.12 and 5.13 are strongly recommended as preparation for this section. 5.12 is probably sufficient, but 5.13 really makes you know your organic chemistry well and is highly recommended by your peer premed students.

Physical Sciences: Any flavor of the 8.01, 8.02 set and 5.11. The physical science section tests your knowledge on general chemistry (not organic), classical Newtonian physics, and electricity and magnetism. These subjects are all sufficiently covered in the classes listed above. In fact, you may find that the physical sciences section on the MCATs is surprisingly laid back when you compare it to what you did in 8.01 and 8.02! Calculators are not allowed at the MCAT, so learn to efficiently estimate.
Verbal Reasoning: There are really no classes at MIT that will prepare you for this section. Remember the SATs? The verbal reasoning is just like the reading comprehension section of the SATs, only harder. Good preparation for this section should include reading newspapers such as the New York Times and the Wall Street Journal or magazines such as Scientific American. Try to read a little every week and read for content and comprehension—don’t just skim and glaze!

MCAT preparation classes?

Many students choose to take MCAT preparation classes. Though they may be quite pricey, they give you materials that specifically target all topics covered on the test so that you don’t have to guess. Plus, practice is key to doing well on the test, and these courses give you plenty of that.

Take, for example, Kaplan: For their summer course, they have you take a full length MCAT every weekend for five weeks before the actual test day. Now, the thought of sitting through a 7 hour exam five times before taking the real one might make you want to puke, but trust us, it really helps in the end. When test day comes along, you will be so used to the whole deal, that the test will seem shorter than it actually is.

A couple test prep courses also hold their classes right at MIT. This is extremely convenient for people staying around during the summer. However, there are also plenty of places all over the US where classes are offered if you don’t happen to be in the Boston area.

Finally, if you are an extremely disciplined person and don’t need feedback for wrong answers or on essays, then the test prep courses aren’t really necessary. But for many of us, this is not the case...

How is the MCAT scored?

The MCAT’s scores are curved. That’s right—you are going to be compared to the other students who are taking the test the same time you are. There are 3 sections: each section is graded on a scale of 1-15, with 15 being a perfect or nearly perfect score. These three sections are combined for at theoretical high score of 45. However, for a few years now, there have been many people scoring sufficiently high on the verbal section to cap the maximum score at 13, since there wasn’t enough of a difference between the numerous high scores to differentiate them after a score of 13. Also, unlike the SATs, there is no penalty or deduction in points if you answer wrongly. Hence, if you don’t know the definite answer, it doesn’t hurt to guess. The writing section is scored on a scale of J through T. T is the highest score. Generally, a score above O is seen as sufficient. However, the essay writing section is the least important part of the test, and many schools actually disregard this section when looking at your MCAT scores. This does not mean you should totally disregard it—it never hurts to have a really good writing score, but, on the other hand, you should not stress too much about it either.

Should you release your score when you take the test?

Many people withhold their scores when they take the test. If you choose to withhold your score, remember that you will need to release the score and send additional reports to the Premed Office for your record as well as for AMCAS and non-AMCAS schools. If you release your score at the test, you can send the score report to six AMCAS schools without additional charge. If you choose to take your MCAT a second time, some people suggest that you should release the first MCAT score anyway, because medical schools will note of your first hidden MCAT score on the score report and they might question your reasons of withholding your first score.

Taking the MCAT more than once?

Taking the MCAT more than twice is strongly discouraged. If you are unhappy with your first MCAT score and want to take the test again, you need to show improvements on your second test or else it may appear questionable on your file. Beware: the MCAT is a notoriously long test. Study well, and then you don’t have to take it again.

The day BEFORE the MCAT

Take a break! Do a little bit of review, but don’t stress yourself out. Feel confident—if you have been studying and preparing well, you will do well on the test. If you don’t know your material the day before the MCAT, you might want to rethink about taking the test the next day.

Go out for a nice dinner (with some carbohydrates as energy storage for tomorrow!), hang out with your friends, and get a GOOD night of sleep! Most test centers require you to be at the registration table by 7:30-8am, and don’t forget to account for the travel time to the location. You might need to get up very early, and with a long day ahead you will need your rest. Don’t forget to set your alarm!!

The day OF the MCAT

THE DAY HAS COME! You have worked hard for the last few months, so don’t let the last minute of stress and butterfly stomach get to you!

Don’t snooze! This is not quite the day to feel like you have 30 minutes to sleep in (unless you have set your alarm a little early). You want to leave extra time in the morning for you to ease into the day. Have breakfast! As busy MIT students, most of us never have enough time in the morning to eat. But today will be a long day, and you need the little burst of energy from a good breakfast. Avoid too much carbohydrate; a good balance of...
proteins and carbo would give you a good start. Keep yourself hydrated. Dehydration can make you feel tired and hungry. Bring a water bottle with you and keep it in your backpack so you can keep yourself hydrated during breaks in between sections.

Leave early, even if you know where the testing center is. If you are driving, give yourself extra time in case of any problems on the road such as traffic or an unforeseen road jam. If you are taking public transportation, also give yourself extra time for any connections or switching trains/buses.

Bring plenty of pencils with you, and don’t forget the black pens for the writing section. Use ballpoint pens—the popular gel roller-type pens might not be waterproof. Who knows what those essay readers might have with them when they read?

At the Test Center

Relax! This is the most stressful time—all these other premeds have studied and are just as ready as you to take the test. It helps if you have friends taking the test with you, but if not bring a walkman/discman for some music or a fun book to read; there might be a lot of lag time before the test actually starts. Find a seat with ample lighting. If you are in one of those uncomfortable, dark lecture halls, try to sit up front for better lighting. Be prepared that the desks might be small.

During the test:

BREATHE! Sometimes students are so caught up in taking the test they get way too stressed. The first few questions you read might mean nothing to you at all—that’s okay, just move on, get used to the test, and you will start feeling better. If you blank out the first minute or two during the writing sample, don’t fret! Remember the three things the graders are looking for in the writing sample, make a list, and start writing.

Remember not everyone has the same form of test, so when you chat with others during breaks you might not be talking about the same problems. Don’t get all nervous for no reason! Stay focused. Don’t think about how you have done on the last section but focus on the upcoming sections.

After the test:

If you feel you have not done well and you want to cancel your scores, you can do it right after the test. However, your other option is to withhold your scores. Don’t be discouraged—most people think they have done worse than they really have. You have done what so many others fear—the MCAT!!
It is your responsibility to keep in touch with your advisor, especially because you want to establish a good relationship with him/her. You should try to meet with your advisor about two to three times a term, if not more. Part of establishing a good rapport is for you to voluntarily meet with your advisor often; this allows the advisor to come to know you better as a person, not just another advisee. Frequent communication is also a key. Email is great, not because it is convenient but your advisor can also save your emails if needed. Keep your advisor updated with your activities, grades, and anything else that means a lot to you and will be helpful for your advisor to know when he/she writes the letter of recommendation.

Your premed advisor will write a letter of recommendation for you in your application file (see premed office). This acts as a cover letter and also a letter that fills in anything important but not mentioned in your other recommendation letters. This letter will be representing the MIT Premedical Advisory Committee on your behalf, and this is the letter that the admission committees will most likely read from your file. But this letter can do more than just fill in the cracks--if you advisor knows you well! Remember: these admissions committees are reading hundreds of files, so they want to read the most comprehensive letter first. This again shows you the importance of a strong relationship between you and your premed advisor!

Recommendation from Professors and Instructors in the fields of Humanities

Similar to the science recommendations, most schools require at least one recommendation letter from a humanity faculty member. MIT has a small humanities department, but take full advantage of the small humanity class sizes! There are several amazing humanities professors at MIT, from bestselling writers to Pulitzer Prize winners. Take humanities classes beyond the required English classes—try a class in political science, history, history of science, or foreign language. Humanities professors are very helpful and willing to write recommendation letters for students.

Chapter 8:
Your Personal Statement

The personal statement is required on the primary AMCAS application. This statement allows you to talk about whatever you would like the admissions committee to know that is not stated elsewhere in your application. Appropriate topics to discuss would include your compassion for and dedication to medicine by discussing the events, experiences, and people important to your decision to become a medical doctor. Often the personal statement is the first time an applicant is required to put their reasons for becoming a doctor in words. This question deserves a lot of time and should not be taken lightly, since you will be asked this many, many times by interviewers, admissions committee members, and your friends and family.

When drafting your personal statement, start by deciding what the message of your personal statement will be. What kind of theme do you wish to communicate? Write about what excites you; for if it truly excites you, your enthusiasm will undoubtedly be demonstrated in your essay. As always, project your strengths onto your essay, but don’t reiterate positive comments you’ve already stated elsewhere in your application. Even if your personal experiences seem mundane, write about them in detail and they will be unique and interesting. For example, perhaps a student chooses to
Chapter 9:
A Medical School Interview -
Tips, Questions, and Answers

What do medical school admissions staff ask during an interview? An interview is given to a select number of students that have been selected from their primary and secondary applications. An interview is often the last step in getting into a medical school; therefore, it is sometimes your last chance to make a favorable impression on the admissions committee. During an interview, the committee members try to assess your character and personality. Interpersonal communication skills come into play during an interview. Thus, these skills are important to work on.

Conclude by coming back to the main message of the essay and show how you have demonstrated or “proved” your thesis. Revise the essay by putting it away for a period of time such that you don’t look at it; when you come back to edit it after this length of time, you may see problems with sentence structure and wording that were not evident before.

From www.accepted.com’s website, some tips for writing a personal statement:

The Do’s
- Unite your essay and give it direction with a theme or thesis. The thesis is the main point you want to communicate.
- Before you begin writing, choose what you want to discuss and the order in which you want to discuss it.
- Use concrete examples from your life experience to support your thesis and distinguish yourself from other applicants.
- Write about what interests you, excites you. That’s what the admissions staff wants to read.
- Start your essay with an attention-grabbing lead—an anecdote, quote, question, or engaging description of a scene.
- End your essay with a conclusion that refers back to the lead and restates your thesis.
- Revise your essay at least three times.
- In addition to your editing, ask someone else to critique your personal statement.
- Proofread your personal statement by reading it out loud or reading it into a tape recorder and playing back the tape.
- Write clearly, succinctly.

The Don’ts
- Don’t include information that doesn’t support your thesis.
- Don’t start your essay with “I was born in...,” or “My parents came from...”
- Don’t write an autobiography, itinerary, or résumé in prose.
- Don’t try to be a clown (but gentle humor is OK).
- Don’t be afraid to start over if the essay just isn’t working or doesn’t answer the essay question.
- Don’t try to impress your reader with your vocabulary.
- Don’t rely exclusively on your computer to check your spelling.
- Don’t provide a collection of generic statements and platitudes.
- Don’t give mealy-mouthed, weak excuses for your GPA or test scores.
- Don’t make things up.

Some key characteristics that will round out your overall impression on the admissions committee are

- confidence: don’t hesitate to firmly and confidently shake your interviewer’s hand at the beginning and end of the interview
- eloquence: be prepared to talk about yourself, your interests, your academic pursuits, and your reasons for becoming a doctor, for they will certainly ask you at least this information
- be knowledgeable about your field of study and ready to discuss any aspects of it at great length

Be prepared to talk about aspects of your background that could possibly be assessed as negative: a low grade point average, no participation in outside activities, etc. A good strategy to implement in negative situations is to convince the admissions committee member that positive attributes can be found in the negative ones. For example, a low GPA might be a result of your heavy involvement with the local homeless shelter, or the fact that you had to support your college career with a full-time job. Or lack of participation in outside activities can be the effect of working with the faculty on a new initiative of experience-based learning.

Practicing interviewing is a good way to get rid of the pre-interview anxieties. A few questions that are often asked during an interview are listed below, suggested by the MIT Premed Office. Determining your answers to these ahead of time can save you a lot of anxiety as well as give you prepared, confident, well-spoken appearance.
Say that you know you’ve done everything by the book up to this point. It probably won’t do you much good to hear about certain “X-Factors” that may exist, and some questions students ask. If any of the following does help you, consider it a 1% advantage over the rest of the pack. Premed students always ask, so here are the answers.

Race/Ethnicity/Underrepresented Minority – in a hypothetical situation, given a non-minority and minority student of equal potential, the minority student will have a slightly better chance of admittance. To be underrepresented, you have to be of African, Hispanic, or Native American descent. Many med schools have vowed to increase the enrollment of students in these groups by year 2000.

Parents are doctors – studies have shown that there is little correlation between your getting into med school because your parents are doctors. If anything, some advantage may come if you apply to the same med school your parent(s) attended.

State of residence – State medical schools are obliged to enroll a high percentage of in-state residents. For example, UMass only admits Massachusetts residents. If you are from California, then more power to you—you will have a good chance to get into any of the UC medical schools, which are excellent institutions.

Connections – Knowing someone on the admissions committee to the school you are applying can have varying degrees of X-factor effectiveness. But this X-factor is rare and you really shouldn’t even think about it.

Double major? – If you are double majoring, make sure that you are doing it for the right reasons. Do it because you have an interest to do so and not because you just want to impress a medical school. If you can supply a whole lot of quantity and quality in the pursuit of a second major, then by all means go for it.

Taking time off after graduating from MIT? – Nothing against this one. The only thing you have to consider is what you will be doing during this period of time between graduation from college and applying to med school. It will be to your advantage if you at least spend a part of this time doing something
MD/MPH (Public Health)

Like MD/PhD programs, MD/MPH is offered in many medical schools. This program is for students who are not only interested in medicine but also interested in public health issues such as healthcare for the poor, medical statistics, certain areas of epidemiology, etc. If you are interested in this program, you should contact the medical schools for more information.

MD/MBA

University of California
—Davis
—Irvine
—Los Angeles

University of Chicago Pritzker School of Medicine

Tufts University
Dartmouth Medical School
Wake Forest University
SUNY—Buffalo
Case Western Reserve University
MCP Hahnemann School of Medicine
Jefferson Medical College of Thomas Jefferson University
University of Pennsylvania
Vanderbilt University

MD/JD

Some of the MD/JD programs do not require LSAT, but you should check with each school for specific information. MD/JD programs do not waive the tuition (but you should again check with the school).

Yale University
University of Illinois—Urbana-Champaign
University of Chicago Pritzker School of Medicine
Southern Illinois University
Duke University
University of Pennsylvania
West Virginia University

Chapter 11:

Interested in medicine
and something else?

Combined Degree Programs
and Alternative Medical Programs

Many MIT premeds have a broad range of interests, and some might wonder if they want to pursue advanced degree in a field-of-interest while they work toward a MD. Here are some of the possible combined degree programs and schools that offer them. Be aware that combined degree programs take much longer, and some programs do not cover tuition.

MD/PhD

MIT premeds in general have a strong science background and many of them are research-oriented. Many MIT premeds apply successfully to MD/PhD programs across the nation. Most medical schools that are affiliated with university have MD/PhD programs; the complete list is available online at the American Association of Medical Colleges website (www.aamc.org).

For those who want to obtain a PhD in biomedical sciences, be aware that there are two options/programs offered by medical schools. Many schools allow students to pursue MD/PhD but do not waive your medical school tuition. About 30 medical schools have the NIH-sponsored Medical Scientist Training Program. MSTP students do NOT have to pay any tuition for either the MD or PhD education, and in addition students receive a stipend. MSTP is very competitive, and they require applicants to have strong undergraduate research experience. Also, some medical schools allow second-year MD students to apply for the MSTP program.
Osteopathic Medicine (DO)

DO education puts the emphasis on the musculoskeletal component of the human body and the overall health of the patient. DO is a four-year program that covers all the science classes like an MD program. DO students must pass the USMLE like MD students, and are also eligible to apply for residency programs in any specialty. Most DOs go into family medicine and primary care, but there are DOs who pursue specialties such as orthopedics and anesthesiology. There is a common application for DO schools at the American Association of Colleges of Osteopathic Medicine website (www.aacom.org).

- Arizona College of Osteopathic Medicine
- Chicago College of Osteopathic Medicine
- Des Moines University—Osteopathic Medical Center
- Kirksville College of Osteopathic Medicine
- Lake Erie College of Osteopathic Medicine
- Michigan State University College of Osteopathic Medicine
- New York College of Osteopathic Medicine of New York Institute of Technology
- Nova Southeastern University College of Osteopathic Medicine
- Ohio University College of Osteopathic Medicine
- Oklahoma State University College of Osteopathic Medicine
- Philadelphia College of Osteopathic Medicine
- Pikeville College School of Osteopathic Medicine
- Touro University College of Osteopathic Medicine
- The University of Health Sciences College of Osteopathic Medicine
- University of Medicine and Dentistry of New Jersey School of Osteopathic Medicine
- University of New England College of Osteopathic Medicine
- University of North Texas Health Science Center—Texas College of Osteopathic Medicine
- West Virginia School of Osteopathic Medicine
- Western University of Health Sciences—College of Osteopathic Medicine

We hope this guide has been helpful in your pursuits for finding information about what premedical students from MIT need to know about getting into medical school. Remember this is not the end of the many resources available for premed students at MIT. The premed office, your premed advisor, and others provide many resources that will help you in your medical school application process. Moreover, the MIT Premedical chapter of AMSA is available for networking opportunities with other premed students at MIT. We dispense information, resources, and opportunities - volunteering, networking, and social - through the course of our general body meetings and various committee meetings.

For more information on MIT Premedical AMSA, email amsa-exec@mit.edu or visit our website, http://web.mit.edu/amsa/www/. We welcome comments and feedback. Please send us your suggestions and criticism!

Thank you for reading!

Sincerely,

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