



Amherst College Guide for Pre-Health Students
Part I: Preparing to Apply to Health Professions School

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Getting Started

The Amherst College Loeb Center for Career Exploration and Planning's **Careers In Health Professions program** provides pre-health advising and mentoring throughout a student's Amherst College years and beyond. The program is dedicated to the overall College mission of supporting underrepresented groups and driving educational equity.

Our advising philosophy is interdisciplinary and holistic in nature, with a focus on health equity and public health, and with the goal of promoting a collaborative culture that builds community among pre-health students and helping students understand that there are multiple paths to a health professions career, including paths other than medicine.

We encourage exploration and curiosity as students engage with their coursework and activities, and consider interdisciplinary connections, self-reflection, and connecting with others to be essential components of Amherst's pre-health advising.

We advise students to go at their own pace, to let themselves be driven by inquiry, curiosity, and passion, and to reject the formulaic, "box-checking" mentality of a set track towards medicine.

We emphasize the development of qualities of empathy, kindness, respect, active listening, and humaneness, as well as cultural humility and competence.

Many students choose to pursue a variety of jobs after graduation. A sampling of where Amherst College graduates pursue careers in health include: positions at community health centers; clinical health care practices; public health; teaching; and healthcare in underserved communities. In addition to traditional allopathic medical school programs (MD degree), Amherst college graduates attend graduate and professional schools to pursue degrees in osteopathic medicine (DO), nursing, physician assistant studies, veterinary medicine, dentistry, speech-language pathology, public health, research science, and more.

Whether you have always known you wanted to be a doctor, veterinarian, dentist, nurse, physician's assistant, mental health professional, medical social worker, physical or occupational therapist, public health professional, etc., or if you are just interested in exploring the possibility of a career in one of the health professions, Amherst College has information you'll find useful, and people to help guide you throughout your time here.

Preparing to enter one of the health professions involves both academic preparation and career planning, so health professions advising at Amherst involves both faculty and Loeb Center support:

- Our Health Professions Advisor and Assistant Dean of Students is **Dean Richard Aronson '69 MD MPH**. You can reach him at raaronson69@amherst.edu.
- **Prof. William Loinaz** (Physics) can advise you about academic preparation for the health professions. He also chairs the Health Professions Committee (HPC).

You can reach him at waloinaz@amherst.edu.

- **Rebecca (Becca) Tishler**, the Assistant Director for Health Professions Advising, meets with new and current students, and coordinates the medical/graduate school application process. Becca can be reached at rtishler@amherst.edu.

It is important that you get to know Dean Aronson, Professor Loinaz, and/or Becca Tishler during your time at Amherst. The better they know you, the better they can support you as you explore your passions and work towards your goals.

***Important Note:** While much of the information in this guide is geared specifically towards medical school applications, much of it will still be useful regardless of the type of health profession school you plan to pursue. We support students in pursuit of all health professions and are currently developing similar, comprehensive guides for other health professions programs and career paths.*

COVID-19 Information and FAQs for Pre-Health Students

The COVID-19 crisis is a global pandemic that reveals the essential nature of public health in our society and as a component of pre-health students' educational background.

Concurrently, the disproportionate impact of COVID-19 on communities of color as a result of centuries of health disparities and inequities clarifies our focus on teaching about health disparities as an absolutely essential aspect of the health professions in the United States.

The Amherst Health Professions Office **strongly** encourage students to take courses and gain experiences that help them develop a background in public health and health disparities, and moreover to develop the tools of empathy, cultural humility, cultural competence, self-reflection, and active listening as a challenge to this history of inequity, and in order to serve all future patients with dignity, respect, and compassion.

COVID-19's disruptions have led to changes in some of the guidance and advice that we give to students navigating the pre-health path. Those changes are detailed here in this section, and in the relevant sections that follow in this guide (look for the **COVID-19 note**). In many respects, however, our advice remains the same.

How have the disruptions of COVID-19 broadly changed the standard advice or procedures for preparing for medical school?

In general, there has not been an encompassing shift of policies due to the disruptions to schooling caused by the pandemic. Instead, many attitudes have taken clearer shape regarding medical school admission that are more flexible, patient, and less rigid than before: that being said, medical schools have always considered each applicant as an individual, and have always regarded aspects of your academic, extracurricular, and

service preparations holistically. The same is true now, alongside a broad acceptance that Spring 2020 was a wild time for everyone. Grades/scores/experiences from that time and into the future will be considered within that context. We expect the same to be true as the pandemic continues to unfold, alter plans, and make a mess of our expectations, though we don't know for sure what that will look like.

Will medical schools accept core pre-med courses taken online?

For classes taken in Spring 2020, given the magnitude of the disruption and the unprecedented nature of the situation, we can say with confidence, yes, those classes that shifted to online instruction will be accepted by medical schools. For Fall 2020 and into the future, we are assuming but cannot say for sure that medical schools will accept that. Medical schools set their own requirements, and we do not know for sure about all of the schools' policies. That being said, it would be very hard to believe if medical schools did not continue to accept online courses, as many schools are online this fall. If the pandemic worsens and remote learning becomes standard and almost universal (which, in August 2021, still seems like a possibility), then this could be different, but for now we encourage students to take their core pre-med courses in person wherever possible.

With the College's policy on FGO, can I take a core pre-med course P/F?

Because some medical schools (we don't know how many yet) either will not accept a Pass for pre-med requirements or will explicitly prefer a grade, we recommend students err on the side of caution and take a grade in those courses *unless* the grade is C- or below. If they take a Pass, they do run the risk that they will be at a disadvantage at some med schools. There is not yet a final word on how medical schools will view a Pass elected under our FGO system. Some medical schools have said they will insist on a letter grade, some have stated a preference for a grade for the spring 2020 semester rather than a Pass, some have no preference. It's also possible that a worsening of the global health crisis, and particularly in the U.S., may prompt those schools that require or prefer a grade to change direction. As of August 2021, our advice remains the same.

With hospitals and private practices closed to non-essential healthcare workers, how do I gain clinical experience right now?

While it is true that COVID-19 has altered or eliminated altogether many of the traditional ways in which pre-health students gain clinical experience (shadowing; working as a medical scribe; volunteering as a patient advocate in a hospital), keep in mind that "clinical experience" does not just mean "experience that happens inside a clinic." Rather, clinical experience involves any experience that lets you interact and engage with people in a health context. As such, things that are considered clinical experiences are diverse and many. This has always been the case, but COVID-19 really brings home the fact that public health permeates every aspect of our lives, and so any experience that engages with one facet of public health is also a form of clinical experience. Some examples: training as a crisis counselor; coordinating volunteers at a food bank; organizing PPE distribution; running as an EMT; working as a contact tracer; caring for family members or friends who are ill or infirmed; responding to community needs through a mutual aid group.

Additionally, just reaching out to health professionals and talking with them about their path and perspective on medicine is very valuable, and can lead to unexpected directions and opportunities, even during the pandemic.

Also, keep in mind that personal illness experiences, or being present and engaged in the treatment or caretaking of a family member, offer important clinical experience as well. Being informed by the patient experience, even when that experience is negative, is extremely important.

Tips for a Successful Health Professions School Applicant

No single formula guarantees acceptance into a health professions school. Building a foundation in the health professions is not about building a specific resume or checking certain boxes – there are so many different possible pathways! We cannot emphasize this enough!

But, here are few things we encourage all students to do if they're interested in pursuing a career in the health professions:

- **Do not rush through the pre-med requirements.**

It is very important to go at your own pace through the course requirements. You are far better served with a schedule that lets you do well in your courses, rather than one that prioritizes speed or acceleration. Though it might seem that all of your peers plan to apply to medical school for matriculation directly after graduating from Amherst, this is in fact very uncommon in practice (in the past 5 years, only 4 juniors on average applied out of an average of 47 applicants each year).

Moreover, the goal is to develop a nuanced and thoughtful motivation for your decision to pursue medicine, and the timing for this process varies according to the student. In general, though, it takes time to know that a career in medicine is the right path for you. You gain nothing by rushing to reach this conclusion.

It is also **very common** for students to finish some of the pre-med requirements after graduating (see “‘Post-bacc’ programs” on page 13 of this guide).

- **Get to know and stay in touch with Dean Aronson, Professor Loinaz, and/or Becca Tishler during your time at Amherst.**

- **Engage enthusiastically in your whole undergraduate education.**

Choose a major—science or non-science—that interests you, and pick challenging courses outside the major that also interest you. When you're genuinely interested in learning, you will be more likely to do well in your courses. Your professors will get to know you and can therefore provide you with strong recommendations. You are a

student at a fantastic liberal arts institution with phenomenally diverse course offerings available to you at all times: take advantage of this incredible opportunity! Take courses you've never taken before, be open to surprises, push yourself out of your comfort zone, challenge yourself. We are very appreciative of students who come in committed to medicine but discover, through courses and other experiences, a different path for themselves: being open to those changes is healthy and important.

- **Find balance for yourself.**

Taking care of your own health and wellness is key: just as you work to learn good study habits and test-taking skills, make personal fulfillment and enjoyment a priority. It's important to have time for friends, for relaxation, for fun! Give yourself time to do things that bring you joy, to embrace new interests and experiences, and to learn ways to deal with and manage high levels of stress. The more you can center your self-fulfillment, personal relationships, interests, and relaxation, the better you are able to deal with setbacks in coursework or tests and the less you feel the need to compare yourself to others. This is just as "productive" to your future goals and ambitions as your coursework is.

- **Familiarize yourself early on with the American Association of Medical College (AAMC)'s Core Competencies for Entering Medical Students.**

This list (found [here](#)) sets out the skills and traits necessary for successful applicants to medical school. Medical schools have informed us that admissions committees rely heavily on the Core Competencies when assessing an applicant. Note that, contrary to much thinking about preparation for medical schools, only three of the fifteen competencies are explicitly related to a science background. Other competencies include: cultural competence; social skills; ethical responsibility; service orientation; resilience and adaptability, among others.

Let the Core Competencies guide you in thinking about the kind of academic, extracurricular, and experiential pursuits you engage in: do they help you develop one or more of the competencies?

- **Do well in the required pre-med/pre-health science courses.**

Whether your major is in science or non-science, successful applicants have the ability and genuine interest in scientific understanding that shows in their work in the required pre-health courses. However, if you find yourself struggling with early pre-health science courses, don't let that overwhelm or discourage you. See Dean Aronson or Prof. Loinaz. And try to be more focused on enjoying the learning, in a collaborative way with your classmates, rather than worrying about getting high grades. The "doing well" will follow from enjoyment and enthusiasm from learning, your hard work, and taking advantage of the many resources available.

- **Show accomplishment and leadership outside the classroom.**

Get involved in a sustained way doing something worthwhile that you both love doing and are good at doing – volunteering, mastering a musical instrument and

performing, doing research, or many other things. It's often more rewarding to become deeply involved in a couple of projects or activities outside the classroom than to spread yourself thin.

- **Have contact with doctors, health professionals, and hospitals.**
During the two or three years prior to applying to health professions graduate school, you should shadow, intern, work, or volunteer with doctors and/or in hospitals, community health centers, and other settings, including public health. Gaining clinical experience is an essential part of preparing to apply to medical school, particularly for yourself, to make sure you understand what the field actually looks like. Clinical experience involves any experience that lets you interact and engage with people in a health context. As such, things that are considered clinical experiences are diverse and many. See one of us for more information.
- Also, it's important to have **non-medical community service experience**. The purpose of such involvement is to develop your empathy, listening skills, kindness, gentleness, and respect for yourself and others.
- **Strongly consider taking a “gap year” or more before health professions school.**
Though we call it a “gap” year, there is nothing empty or lacking about this time! Applying for admission a year or two after graduation often enhances your qualifications. The average age of all first-year medical students in the U.S. is now 25. If you are prepared and motivated to plunge right into the pre-medical science courses when you arrive at Amherst, then so much the better. But there is no urgency to do so, and many who are later successful in being accepted proceed at their own pace. This is fine.

Please see our website and read the *Pre-Health Guide Part II: The Medical School Application Process* for specific information about the application process.

Getting Information and Advice

Information you need about pre-medical matters is available from several sources on campus:

- The Amherst Pre-Health Community Newsletter, sent from our office biweekly during the school year. Email Becca to get on the list!
- The Pre-Health Guides (this one, and *Part II: Applying to Medical School*)
- Documents available on the Health Professions pages of the Loeb Center's website
- Speaking with Dean Aronson, Professor Loinaz, and/or Becca Tishler
- Small group advising sessions for first-years and transfer students
- A pre-health peer mentor (email Dean Aronson if you'd like to learn more!)
- [Handshake](#) – the Loeb Center's platform for appointments, jobs, etc.
- ...and more!

Academic Preparation for Admission to U.S. Medical Schools

When we refer to U.S. medical schools, we refer to both allopathic (MD) and osteopathic (DO) medical schools. We encourage students to explore both the MD and DO paths to medicine.

Unlike other students at Amherst who only have to fulfill requirements for a major, if you are considering a career in medicine, you must also fulfill medical school entrance requirements.

Important note: these are requirements set by medical schools, *not* by our office or Amherst College. We can help you interpret these requirements, but they are not of our design, and we regard them as the *minimum* academic preparation needed for admittance to medical school and for a future health career. We would **strongly** encourage students interested in the health professions to also take coursework that informs them about: public health, from any angle; health disparities and inequities; racism and injustice in the United States and abroad; differing cultural or religious perspectives on health, the body, medicine, wellness, illness, and death; what it means to be human.

While these requirements vary by medical school, almost every medical school in the country requires at least the following:

- Lab Sciences:
 - 1 year of general chemistry (with lab)
 - 1 year of organic chemistry (with lab) – typically, but not always, in two consecutive semesters.
 - 1 year of general physics (with lab)
 - 1 year of biology (with lab)

- English: 1 year of college English

- Mathematics: If you place out of Math 111, you've met the calculus requirement for medical school and for Amherst College premed science courses, so you don't have to take higher-level calculus from the pre-health perspective. Enough medical schools require statistics that a semester of statistics should be considered as a requirement for medical school as well. Individual medical schools will vary in their calculus or statistics requirements, but if you have taken or placed out of Math 111 and you take a semester of statistics you will have fulfilled the math requirements for all but a but a very small number of specialized medical programs.

- Biochemistry (with or without lab).

- A few schools also require:

- Social or behavioral science courses, or more biology.

Medical schools individually set their own requirements. Information about requirements for specific medical schools can be found in the Association of American Medical Colleges (AAMC) publication, [Medical School Admissions Requirements \(MSAR\)](#), updated annually.

Please note that these specific requirements apply to medical schools. While there might be significant overlap between the pre-med requirements and the pre-requisites for other health professions graduate programs, there are also some important variations.

Amherst Courses that Satisfy the Requirements

Chemistry:

- Chemistry 151 or Chemistry 155
 - You will receive your placement in Chemistry 151 or 155 at orientation. Chemistry 155 is a more advanced version of first semester Chemistry due to its greater mathematical component. Friendly advice: Placement into introductory chemistry courses is done to maximize your success with the STEM curriculum, and is binding—**if you are placed into one course you will not be allowed to take a different introductory chemistry course**. If you feel that your placement is in error, see the chair of the chemistry department. Note that if you place into Chemistry 155 you must take it in the fall of your first year because CHEM 155 is not offered in the spring (and you will not be allowed to enroll in the spring CHEM 151 course).
 - Chemistry 151 is offered in both the fall and spring. If you are placed into Chemistry 151, don't feel compelled to take Chemistry 151 in the first semester. Waiting to take Chemistry 151 until the spring semester, or later, gives you time to explore the curriculum, and the spring class is smaller. The key message here is: Everyone goes at their own pace for pre-health at Amherst. Don't feel that you have to take what your peers take.
- Chemistry 161 and 165
 - Both courses require completion of Math 111, being placed out of Math 111, or completion of both Math 105 and 106. Your placement into a second-semester chemistry course is determined by the chemistry department, but typically students who take Chemistry 155 in the fall should anticipate that they will be placed into Chemistry 165. Chemistry 165 is only offered in the spring, so students who take Chemistry 155 in the fall **MUST** take Chemistry 165 in the spring. Chemistry 161 is offered in both the fall and spring semesters.

- Chemistry 221 and 231
 - This is the complete organic chemistry sequence (as mentioned, this is typically a year-long sequence). Chemistry 221 and 231 are now each offered in both the fall and the spring, and thus students who begin Chemistry 151 in spring of their first year need not delay starting organic chemistry until the fall of the junior year.
 - Students who must take organic chemistry after sophomore year should meet with Dean Aronson or Prof. Loinaz to discuss how to arrange this in their overall academic and extra-curricular schedule, such as study abroad, which we strongly encourage and is definitely possible.

Biochemistry

- Biochemistry is required, either the lab or non-lab versions offered at Amherst.

Physics

- Physics 116 and 117,

OR

- Physics 123 and 124

Physics 116 and 117 are specifically intended for students not majoring in Physics, and are in fact populated mostly by pre-medical students. Physics 123 and 124 are intended for prospective Physics majors and for students who want a more mathematically rigorous introduction to Physics, including pre-medical students. (Note that Physics 124 requires Math 121)

Biology

- The recommended path for fulfilling the pre-med two biology lab requirement is to take BIOL 181 and BIOL 191 (BIOL 191 is also required for biochemistry). All students are guaranteed a spot in both courses, but note that BIOL 181 is only offered in the fall, while BIOL 191 is offered both semesters.

Students who elect to fulfill their pre-med requirement with an alternative biology lab course should do this *no later than senior fall*, because upper-level biology laboratory courses have limited enrollments and waiting until senior spring could leave you with no biology course to enroll in.

Mathematics:

If you place out of Math 111 upon entering Amherst, you have met the pre-med requirements for calculus and do not need to take another calculus course during your time at Amherst. If you do not place out of Math 111, you have the following options:

- Math 111

OR

- Math 105 and 106

Either Math 111, or completion of both Math 105 and Math 106, are prerequisite for Chemistry 161 and for Physics 116 and 117.

Sufficiently many medical schools now require statistics that a statistics course is effectively a requirement for medical school. The statistics program will place you into an introductory statistics course (typically Statistics 111, 135, or 230).

If you have placed taken or placed out of Math 111 and you have taken a semester of statistics, you have satisfied the math requirement for essentially every medical school in the country (with the exception of a few specialized programs).

English:

- Any two English courses.

You may also take literature or writing courses offered by other departments besides English, e.g. European Studies, or the "literature in translation" courses offered by the foreign language departments, as long as the course is taught *in English*, involves reading literature and has a lot of writing. We recommend that at least one of the two courses you take to fulfill this requirement be a course called English, i.e. taught in the English Department.

Each medical school makes the determination regarding whether or not a course fulfills the pre-requisite, so the safest option, especially if you're a first year or sophomore, is to take two English Department courses.

(see "*Does my first year seminar count towards one of the two required English courses?*" on page 16 of this guide for our advice on your FYS fulfilling the English requirement).

Advanced Placement/Advanced Standing

We recommend that whatever your standing or placement, you should take at least two lab Biology courses, two lab Physics courses, and four lab Chemistry courses in college. The reason is that many medical schools state that they do not accept AP credit, or accept it only if it appears on the college transcript (and Amherst doesn't list AP credits on transcripts).

However, we should note that occasionally Amherst students have been able to apply with fewer than the above number of these courses on their transcripts. These were very

strong science students who placed out of an introductory course in one discipline, e.g. Biology or Physics, in order to schedule a program with many advanced science courses in another of the three disciplines. This record of strong science achievement, plus a letter from the Health Professions Committee to the medical schools confirming the student's advanced standing, has satisfied at least some medical schools. Still, our attitude would be, **"Why take a chance - take the course!"**

In calculus, most medical schools require only one semester of college-level calculus. As noted above, if you place out of Math 111 based on documented AB or BC calculus AP scores upon entering Amherst, you have essentially met the calculus requirement for medical schools. Check the requirements of individual medical schools that interest you to see what they require.

You are welcome to take additional calculus courses if the topic is of interest to you, but we cannot say that there is an appreciable "strengthening" of your application with additional calculus courses beyond the Math 111 requirement.

Choosing a Major

Amherst College has no pre-medical major. You may major in any subject, while satisfying the pre-med requirements. **Major in a subject that interests you!**

Humanities or social science majors are not *in any way* at a disadvantage when applying to medical school – provided they have done well in the required pre-medical science courses. Of course, if you like a particular science subject, choose it as your major. If you major in Biology, Chemistry, Physics, BCBP, or Neuroscience, some of the courses you take as major requirements will also count as pre-med requirements. You would almost certainly major in science if you wanted to go on in medical research, e.g. to enter a combined M.D./Ph.D. program.

Friendly advice: If you decide not to major in science, consider taking a science course or two above the minimum requirements, and avoid taking science requirements in the summer. As a non-science major, you want to convince the medical schools that you can do the heavy science workload of medical school.

Study Abroad

Taking a semester of study abroad is encouraged. It requires planning ahead, especially for science majors. Consult with faculty in the science department you are majoring in for how to do it, and Dean Aronson/Prof. Loinaz.

A semester or a year studying abroad can be a very rewarding experience. Students interested in medical careers will find it much more feasible to study abroad while they are undergraduates than after they have started their medical education.

While studying abroad, most students do not take science courses. This is because it is desirable and logical to be studying the culture of the country you are visiting, particularly if you are learning a foreign language. It is also difficult to find courses at foreign universities that fulfill exact science requirements for U.S. medical schools, and medical school admission committees usually want to see the 8 minimum pre-medical lab science requirements on a transcript from a U.S. college or university.

As a consequence, studying abroad and fulfilling pre-medical requirements before graduation will require some careful planning. (If you defer science courses until after graduation and take a "post-bac" program, there should be no difficulty in going abroad for a semester or even a full year.)

Studying abroad during junior year: This can work well if you apply to medical school at the end of senior year, rather than at the end of junior year. You could take the MCAT in the late summer or fall after you return from study abroad, or any time during the senior year up to June. As noted throughout this Guide, you are not at a disadvantage if you enter medical school a year (or more) after graduation!

It is also possible, though probably more difficult, to go abroad in the fall of junior year and still apply to medical school at the end of that year, taking the MCAT in the spring of junior year as recommended for those applying to enter medical school right after graduation. However, you will need to "double up" on lab courses every semester and may have to take a summer course to finish your pre-med science requirements prior to taking the MCAT exam. (*Note the warning about taking summer courses below.*)

Scheduling Pre-Medical Requirements

At Amherst there are almost as many different paths through the pre-medical requirements as there are pre-medical students. **There is no single recommended major or sequence of courses.** You should ***always*** consult with both your academic advisor and/or Dean Aronson or Professor Loinaz, as each student has individual academic needs and preferences.

Besides study abroad, other options that affect planning are:

(1) majoring in a non-science subject while also completing pre-med requirements (not problematic at all, but requires planning),

(2) applying at the end of senior year or later, so pre-med requirements can be spread out over the full 4 years - nearly 90% of Amherst applicants apply at the end of senior year or later (you apply to medical school 14 months before matriculation), rather than at the end of junior year for admission to medical school immediately after graduation (and 66% of all accepted Amherst applicants in the last five years applied in their senior year or thereafter);

(3) completing some but not all of the pre-medical requirements at Amherst, and finishing the remainder after graduation, either at a "post-bac" program or via continuing education courses taken in the evenings while working at a full-time job.

Some additional scheduling information:

- Chemistry 151 in the second semester has lower enrollment and thus smaller classes.
- Biology 181 and Chemistry 155 and 221 are taught only in the fall semester.
- Chemistry 165 is only taught in the spring semester.
- Chemistry 151 and 161, Biology 191, and Physics 116 and 117 are all normally taught during both the fall and spring semesters.
- Most upper-level biology lab courses are taught only once a year.

“Post-bac” programs

These programs allow students to complete pre-med requirements after graduation. They are offered by many institutions; here is [the AAMC's list](#). You would enroll for one or two years, depending on prior science courses taken. These programs are intensive and often expensive, but our graduates who have gone to good quality programs have often been accepted into medical school.

It is also possible to fulfill pre-med requirements after graduation by enrolling in accredited continuing education courses (taking classes “a la carte”).

Important summary guidelines:

Don't rush through the pre-medical science coursework. Go at your own pace.

We generally recommend that new students who choose to embark on the pre-medical track in their first semester **start out with one lab course**. That said, however, students who have placed out of Math 111 and into Math 121 or higher may choose to take Biology 181 and Chemistry 151/155. If you're placed into Math 105/106, you won't be able to take Chemistry 151/155 until the second semester. Others who intend to major in physics may also choose to take two labs in the first semester. However, **doubling up right away isn't required for the pre-med track**. If you have questions, please discuss with your academic advisor and/or Dean Aronson or Professor Loinaz. While there are some students who may feel well-prepared for two laboratory science courses in their first semester, **for many students, doubling up right away is an unnecessary risk**. Don't take two labs in the same semester until you're ready and confident.

Take lots of non-STEM courses, and think of ways to develop your empathy, listening skills, respect, kindness, and holistic understanding of health.

Find role models. Realize that health professions means more than “pre-med” at Amherst, and that we encourage and welcome all students interested in any aspect of a health career.

Please meet with Dean Aronson for any interest in health you may have, and it’s perfectly fine (and in many cases healthy) not to have decided yet. Everyone is unique and goes at their own pace on this exciting journey.

Thinking Ahead to the MCAT Exam

You will take the [Medical College Admission Test](#) (MCAT) as part of the medical school application process. The test is given from March-September and the month of January on various dates.

The Health Professions Committee requires that you take the test by late April of the year you’re applying (for example: if applying for matriculation in August 2024, you must take the MCAT by April 2023). Exceptions to that need to be requested.

Taking the exam later than late April in the year you're applying means that medical schools will get the results only after they begin reading applications, which puts you at a disadvantage.

You must set aside lots of time to prepare for the MCAT, which requires specific science knowledge, not all of which you will have covered in your Amherst science courses.

We highly discourage taking the MCAT without substantial preparation to “see how it goes” with the plan to retake at a later time. All of your MCAT scores are visible when you apply. Ideally, you want to prepare diligently and well, take the exam once, and move on!

Frequently Asked Questions and Answers

"May I take pre-med requirements in summer school in order to lighten my Amherst load, or to catch up if I decided late to go pre-med, or to improve my grades?"

COVID-19 note: *though there is increasing flexibility on the part of medical schools to broaden their acceptance of what previously constituted "untraditional" coursework (online courses, summer courses, online courses in the summer) due to the disruptions caused by the COVID-19 pandemic, that flexibility varies across medical schools. We cannot give a broad statement of confidence that this policy has changed as a result of the pandemic. Therefore, much of the original answer provided below still stands. Individual circumstances vary, and we encourage you to be in touch with Dean Aronson or Professor Loinaz with specific questions.*

Medical schools in principle will accept summer science courses taken at any accredited institution in fulfillment of their requirements, and they will let you count the grades in those courses when you calculate your "science GPA" for your applications. However, remember that the medical schools have to decide to accept not just the courses you have taken, but also you as an applicant. Although many Amherst students have been accepted to medical schools with summer courses on their records, in general we believe it does not help students' chances. Remember that much of medical school training is science-based, and at most medical schools it comes in a more concentrated form than you will experience even while taking two lab courses simultaneously at Amherst. You must show medical schools that you can do a heavy load of science and do it well, and taking summer courses may raise questions in that area. Taking a summer course or two shouldn't cause a problem for students with a substantial science load anyway, e.g. a science major, or a student taking lots of science to complete requirements before going away on a study abroad program. Also see "Factors affecting the probability of acceptance" for categories that may favor admission in spite of a less competitive record.

Regarding the effect of summer courses on a student's Amherst record, as distinct from the effect on medical school admissions: students do not receive credit towards a degree from Amherst for a summer course, unless the course was taken because the student failed an Amherst course.

However, subject to approval from the department concerned, a summer course may fulfill a prerequisite requirement for an Amherst course; e.g. taking a semester of Intro. Physics with lab, if it has the content of Physics 116, will allow the student later to take Amherst's Physics 117 if the Physics Department approves the course. Note that approval of prerequisites for Amherst courses is up to the Amherst science department involved, not the Health Professions Advisor or the Health Professions Committee.

"May I take a Five College course during the regular semester to fulfill a pre-med requirement?"

Generally, you may not get credit for a Five College course that is similar or identical to an Amherst course, unless you can demonstrate that an unavoidable scheduling conflict prevents you from taking the course at Amherst. That being said, Biochemistry 420 at UMass is similar to the Biochemistry 330 at Amherst, and students can comfortably enroll in that if their only option is to enroll in Biochemistry 331 (the version with lab, and designed for BCBP majors). The reason for this rule is that the courses are listed on the Amherst transcript, and the grade in the course counts in calculating your Amherst GPA. It may indeed be possible to find an easier science course at another institution in the Pioneer Valley. However, taking a course elsewhere for that reason is not the purpose of Five College consortium, and, since it appears on the Amherst transcript, doing so may be unfair to other students who take the sometimes more rigorous Amherst course. In the committee letter the Health Professions Committee will help medical schools interpret your curriculum, including the rigor of the courses.

"Does my first year seminar count towards one of the two required English courses?"

The short answer is, it depends (theoretically, yes, but it is a risk). But we would encourage you to perhaps reconsider the motivations behind this question. Are you asking this question because you are trying to get out of one of the two English courses? Remember that medical schools are the ones setting the pre-med requirements, not Amherst: why might medical schools want burgeoning health professionals to spend a year studying the literary arts (see below, "Will majoring in the non-sciences put me at a disadvantage for medical schools?")? Since you are a student at Amherst, you did choose to be in an educational environment that prioritizes the open curriculum and diversity of course selection that is the hallmark of a liberal arts education. As such, we would hope that you would see the two required English courses as an opportunity to expand your thinking and, perhaps, try subjects outside of your comfort zone; themselves very important skills for a future career in healthcare, by the way.

"Is it all right to take pre-med requirements Pass/Fail?"

COVID-19 note: see our discussion of this question, relevant for students enrolled in Spring 2020 onward, on page 4 of this guide.

"Under what circumstances should I consider first-year drop?"

The purpose of first-year drop is *not* to allow first-year students to take three courses instead of four, and it is not automatic. Rather, the purpose is to give a break to students who have done everything within their power to succeed in a course but who find, after trying hard, that they are not able to do satisfactory work. As the Amherst Catalog puts it, "The Dean of New Students, in consultation with the instructor and advisor, will decide on the basis of the student's educational needs" whether to allow a course to be dropped. It

is not an "educational need", for example, to drop a course simply because it is your potentially lowest grade of the semester. From the point of view of admission to medical school, low grades do not help, but at the same time no single grade, however low, will eliminate your prospects. It is reasonable for you to be concerned if you think you are headed for a grade of, say, C- or below. Even in that case, you need to consider carefully whether to petition to drop the course, when there may be plenty of time left in the semester to improve your work. See your instructor and faculty advisor about options, which may include taking better advantage of the help available in office hours, dropping some extracurricular activities, using the Quantitative Center's (Q-Center's) resources, and/or getting a tutor.

A first-year drop request should be made during the sixth through eighth weeks of the semester. Whether a professor will support a first-year student's request to drop a course depends on whether the student has made good efforts in the course from the beginning, and on the timeliness of the request. If a student does not make use of resources as described above, or if the student delays making the request until after the eighth week in the semester, a professor is justified in declining to support dropping the course. All requests to drop a course must be approved by the course instructor and student's class dean and they must happen in the permitted time window.

“Will majoring in the humanities put me at a disadvantage for medical schools?”

No, not at all! We cannot emphasize this point enough! The humanities are an absolutely, undeniable, 100% necessary component of your training for medical schools: that is why medical schools require one full year of college-level English courses, and some schools require additional social science courses on top of that. The humanities offer students a different way of understanding knowledge, truth, and meaning, and promote, through their many different perspectives, a deeper understanding of the human condition. In addition, they require an immense amount of self-reflection, and help you find meaning for yourself and make meaning from your life.

No health professional is a machine: they are humans treating humans, and humans are complicated ecosystems of thought, emotion, and experience. As a health professional, you need to understand how to navigate such complexities as: the compassionate delivery of painful/difficult news; interpreting the coded, unvoiced needs behind visible problems; the respectful navigation of differing cultural and religious understandings of illness, health, the body, medicine; the impact of societal inequity on a patient's ability to seek or maintain treatment, promote their health, respond to crises. We feel that the humanities offer a path to begin practicing these essential skills.

“It looks better for medical school if I major in the sciences, right?”

The short answer is, no, because no one thing “looks better” than another – because there are so many components to the medical school application that inform your consideration as a candidate. A background in the sciences can definitely heighten your critical thinking and quantitative skills and, of course, your proficiency in science topics, but the pre-med science requirements are designed to do that, too. If you are majoring in a science because you think it will improve your application, and you aren't enthusiastic

about that major, it is likely that your grades will suffer, given the immense amount of time you will have to devote to something you don't actually care about, at the expense of the thing you do care about. It is far, far better to study the thing you enjoy and do well in those classes, and offer yourself the freedom to take courses in things that excite you and spur you towards fulfillment.

"Will my chances of acceptance be improved if I double major?"

Not that we can detect. It's great to have one or more areas of academic concentration outside your major, but to us the only legitimate occasion to double major is if you really want to take all the courses in the second major, plus any other requirements such as senior seminars and comprehensive (comp) exams. Professors aren't happy to hear excuses about why students can't complete requirements for their major as scheduled because of alleged conflicts with requirements for a second major. Medical school admissions committees will be looking at the overall quality of your academic work. While it is good to have significant strength outside the major, we see no evidence that medical schools are impressed by the addition of a second major per se.

"Is it okay to 'take time off' after graduation before going to medical school, either because I started late, or because I want a break from academics at that point? How do medical schools regard a gap year? Don't most students apply to enroll in medical school directly after graduating?"

We highly encourage having at least one year between graduating from Amherst and matriculating in medical school. It can be a very positive step on your way to becoming a physician: a profession that requires maturity, perspective, and self-awareness, among other traits. Though it might seem like all of your peers are planning to matriculate directly after graduating, in the past five years only 4 juniors on average applied, out of an average of 47 applicants per year.

In fact, the median age for first-year medical students is now nearly 25! Of course, what you do after graduation should ideally be science- or medicine- or service-related, like working in a research lab or a hospital, teaching, Peace Corps or other service work, or perhaps even traveling with some medical care contact in the places you visit. The added experience can enhance your qualifications and show your commitment to a career in medicine. (By the way, "taking time off" isn't how we would describe doing experiments until the wee hours of the morning in a research lab, teaching high school, or working in a hospital. Even the term "gap year" implies that there is something lacking about this time. We would describe this instead as "working before going to medical school"!)

One note of caution: be aware of the very long lead time required to apply to medical school - ***you must begin the process almost a full 2 years before you intend to begin medical school.*** If you have graduated and are away from Amherst, you won't receive notices about this unless you let us know of your intention to apply and send us a non-Amherst email with which we can get in touch - it's up to you to keep in contact with our office and begin the process on time!

“If I struggle with pre-med science coursework early at Amherst, should I drop pre-med?”

COVID-19 note: *if you struggled to concentrate on your coursework and did not get the grades you would have hoped due to the demands on your time, attention, or energy due to the pandemic, try to be patient with yourself. Everyone has been disrupted by the pandemic, and given the inequities in our society, some were disrupted in far more stressful and dire ways than others. This is an important part of your journey to medicine and does not disqualify you from continuing with the pre-med science coursework.*

Absolutely not! Many Amherst students do struggle with these courses, and a semester or two early on of lower grades is not a reason in itself to give up the pre-med path. Indeed, medical schools consider highly those students who can demonstrate a positive upwards trajectory in their coursework, displaying mastery as their courses increase in difficulty even with a rocky beginning. In fact, some of our distinguished Amherst alumni health professionals had a rough start. It's important to meet with Dean Aronson or Prof. Loinaz to discuss this.

The Mount Sinai FlexMed and Rochester Early Assurance Programs

[Mount Sinai Medical School](#) has a FlexMed program which allows college sophomores in any major to apply for early assurance of acceptance to their medical school. Once accepted, you are free to pursue your studies unencumbered by the traditional science requirements and the MCAT. This program is an expansion of their longstanding Humanities and Medicine Early Assurance and Science and Medicine (SciMed) programs. If you plan to apply, see Dean Aronson.

Applications are submitted in fall of sophomore year, and anyone accepted is automatically admitted to Mount Sinai Medical School after graduating from Amherst and fulfilling requirements.

In addition, Amherst is one of only a few select schools who participate in the [University of Rochester](#)'s Early Assurance program for sophomores. The Rochester program is specifically meant for a very small number of prescreened students who have already reached, by the middle of sophomore year, a certain level of readiness and experience for medical school. Applications to the Rochester Early Assurance program require a health professions committee letter and have to go through the Health Professions Office. See Dean Aronson for more information.

Life Beyond the Classroom

Remember: while it is important to gain experiences that help you commit for sure to a future in the health professions, medical/graduate schools want to know who you are. Choosing activities based on “whether they’ll look good” does yourself a disservice, because it might keep you from doing the things you’re really interested in, and it also might make you a lackluster candidate later on, because you won’t be able to bring the same kind of enthusiasm when talking about those activities as you might with others.

It can be tempting to regard extracurricular or summer experiences as checkpoints along a straight path that lead from you and your interests directly towards admission in your program of choice. And conversely, that the absence of these experiences destabilizes your chances of acceptance in the future.

But, in fact, there has **never been** a checklist of activities to complete that will guarantee your entry into medical/dental/vet/graduate school. Every applicant is unique; everyone's path is different; everyone articulates their passion to pursue the health professions in a different way, on the basis of different circumstances.

The key word there is *articulate*: how can you reflect upon and explain the moments in your life that inspire your pursuits, whatever they are?

How you talk about your experiences and what you've done or not done is more important than having just done them. Your pre-health journey -- but, more importantly, your life, and self-efficacy -- is strengthened by reflecting on your experiences, linking them to your passion, and articulating their meaning. You can have the most prestigious research experiences in the country, but if you can't thoughtfully explain why they were meaningful to you (or not), then those experiences won't necessarily help you. The converse is **even more true**: being able to thoughtfully explain why you didn't do something, why you were unable to take that internship because you had to stay home and care for your grandparents, will serve you -- as a professional, moreover as a person -- extremely well.

“How should I start thinking about finding medically-related activities?”

"Hands-on" interaction with patients and medical personnel gained by working or volunteering in a hospital is preferable to "shadowing" physicians, although the latter is also useful. Such activities are essential both for you to find out about medicine and to show your commitment to medicine as a career. We recommend meeting with Becca or Dean Aronson for them to introduce you to the incredible Amherst alumni network.

Many Amherst pre-health students are interested in participating in Amherst College Emergency Medical Service (ACEMS) and perhaps becoming certified as an EMT, and that's great. Be aware, however, that many medical schools want applicants to have had contact specifically with doctors and hospitals. By its very nature, ACEMS leaves off where doctors and hospitals begin. ACEMS can supplement, but not substitute for, contact with doctors and hospitals, at least in the eyes of some admissions committees.

Even students with high grades and good recommendations sometimes are not admitted to medical school if they have had no contact with doctors and hospitals in the two or three years before applying. (This perhaps does not apply to M.D./Ph.D. applicants with very strong research experience.)

Extracurricular activities

Applicants' accomplishments and leadership outside the classroom are of great interest to medical school admissions committees. What's important is your sustained commitment to one or a few worthwhile activities, such as music, volunteer work, sports, student newspaper, political activity, or other pursuits. Participate in these activities for the genuine interest you have in them, not primarily to impress medical schools.

Summer/January term internships

The summer is an excellent time to get involved in medicine, service, and biomedical science. Programs at many universities invite undergraduates to participate in summer lab research or intensive shadowing programs; note that application deadlines typically start in January.

Internships in hospitals, laboratories, clinics, or other health-related organizations and in community service work can help you clarify and confirm your career decisions, provide a broad-based, humanistic, and scientific foundation for medical school, and show your commitment once you have decided to enter the health professions. Check out the [Charles Hamilton Houston Internship Program](#) through the Loeb Center, and/or contact Victoria Wilson, the Director of Summer Internships or Emily Tareila, Assistant Director for Internship Programs at the Loeb Center. Handshake also has a wealth of paid and unpaid internship possibilities for Amherst students.

Also, discuss your summer plans with Dean Aronson. Again, don't feel that you have to do a summer internship, especially after the first year.

COVID-19 note: any pursuit that responds directly to the COVID-19 crisis, or attendant needs arising from that crisis, is relevant for pre-health. This can include volunteering in a food bank, in a homeless shelter; working for housing, food justice, environmental, or anti-poverty nonprofits; taking a part-time position at a grocery store or pharmacy (see "*With hospitals and private practices closed to non-essential healthcare workers, how do I gain clinical experience right now?*" on page 4 of this guide).

Factors Affecting the Probability of Acceptance

Good grades, solid MCAT scores, strong recommendations, and a successful interview

are important for a successful medical school application. However, there is no such thing as a checklist for medical school, and we aim at Amherst to create a collaborative pre-health community in which students, faculty, and staff support our pre-health students in multiple ways; and they support each other.

We would like you to also be aware of other factors, over which you have little or no control, that might affect your chances:

1. **Race or ethnicity:** If you are a member of one of the four groups currently designated by the Association of American Medical Colleges (AAMC) as [“underrepresented in medicine”](#), you are more likely to be accepted than a non-underrepresented student with the same other characteristics (grades, MCAT scores, etc.).
2. **State of residence:** While your state of residence won't make a difference in applying to private medical schools (Yale, Columbia, Duke, etc.), it matters a lot in applying to state-supported (or "public") schools. All state schools heavily favor state residents, as they are mandated by the state to allocate a certain percentage of seats to in-state residents. Many public schools also have a mission to serve the residents of their state, and so prefer students with a commitment to the state. Thus it is "good" to be from a state with a medical school and a smaller population, like North Dakota. Admission to state schools with larger populations, such as Massachusetts or California, is often more difficult. If you are from one of the six states without a state allopathic medical school, there may be special interstate agreements to provide opportunities for those residents. For example, Jefferson's Sidney Kimmel Medical College and the Philadelphia College of Osteopathic Medicine (PCOM) in Pennsylvania both reserve a certain number of admissions places each year for Delaware residents. The University of Washington has a commitment to treat residents of Wyoming, Alaska, Montana, and Idaho the same way as residents of Washington itself.

Planning and Scheduling your Medical School Application

During the year before you intend to apply to medical school, a full 2 years before you intend to begin your medical studies, you need to take steps such as registering with the Health Professions Specialist, asking for letters of recommendation, and scheduling to take the MCAT exam. This would be in the fall of your junior year if you intend to apply for admission at the youngest possible age, i.e. to enter medical school during the fall after graduation from Amherst.

However, a recurring theme in this guide is that you *do not* have to apply at such an early age, and indeed it may be to your great advantage to apply later – you will have graduated, perhaps with honors, at the time you apply, and you will have more medically relevant experience also.

One piece of advice about the timing of the application process through the Health Professions Committee: **do not** begin the process unless you actually plan to apply during the coming year, for admission a year and a half later. It might seem like a good idea to begin the process, collect letters of recommendation, and get the Committee letter written even if you don't intend to apply until a year later, e.g. seniors planning to take two years off before entering medical school. However, this means that faculty recommendations will be dated before—perhaps long before—the medical schools are reviewing applications, and that lowers the impact of recommendations.

Also, we do not have the resources to go through the process of preparing Committee materials more than once for each applicant. Once we prepare materials, all we can do if you don't apply during that cycle is to provide minor factual updating when you eventually do apply. So you will get more timely and appropriate support for your application by registering with the Health Professions Specialist and collecting faculty recommendations during the year before you actually intend to apply. Even if you are a senior about to graduate, don't worry that faculty will forget you! You can mention to professors that you plan to contact them for a recommendation sometime in the future, rather than trying to get recommendations in advance, hoping to use them later.

Finally, we advise against applying with the intention of requesting a year's deferment after being accepted. Applying with the intention to defer is not the best plan for several reasons. First, you will almost certainly be a stronger applicant in terms of grades, honors, and experience at the end of the additional year, so it's better to apply later rather than sooner. Second, some medical schools don't permit deferments, or have specific criteria for allowing them which you may or may not meet. Third, most schools don't allow deferment for applicants admitted from their waiting list, and it often happens that applicants are admitted to their top choice (i.e. most selective) school from a waiting list.

The [next section of the guide \(Part II\)](#) covers the process of applying to medical school.

Afterward

Originally written by Liz Hartzell, Karen Wood, and Sophia Chang, all members of the class of 1981 and now practicing physicians, this guide has been revised and updated over the years. ***The latest revision is August 2022.***

Included are "hard facts", such as the courses you must take in order to be considered for admission to medical school, plus "friendly advice" that you may choose whether or not to follow, such as what to do during your summers. We hope that this booklet will give you some of the information and support you need to engage productively in your Amherst education, while also preparing successfully for admission to medical school and for a career in medicine.

FROM THE PREFACE TO THE ORIGINAL 1981 EDITION:

Amherst College as an institution prides itself in providing a liberal arts education. As a result, there is no acknowledgement of pre-professionalism, i.e., no pre-med major... Consequently, we have compiled a booklet which we feel outlines information necessary for and helpful to an Amherst College student considering medicine.

- Liz Hartzell, Karen Wood, and Sophia Chang - Class of 1981