

# **Missouri S&T Pre-Med Survival Guide**

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## Introduction

Hello fellow Miners! This survival guide was written in an attempt to ease some of the stressors that come with the pre-med preparatory process. Admittance to medical school is a difficult and worthwhile goal to pursue, and I hope that this guide helps some of you to make your applications as strong as possible. There is no magic formula for preparing your application that will guarantee you success, but the advice in this guide will help you to gain quality experiences that admissions committees look for.

I want to preface this guide by saying, you can do this! If you have a passion for the medical field and want to pursue this career path it is very possible. It takes a lot of hard work, as will the rest of your medical training, but it is very rewarding. Missouri S&T will prepare you well academically for medical school and the MCAT, and the pre-med advisors are excellent. Believe in yourself, and always ask for help along the way.

To become a strong applicant, there are a number of pieces to the puzzle that you will need to gather for a well-rounded application.

- Strong GPA, usually at least a 3.5.
- MCAT Score, at least a 500.
- Employment and work experience
- Volunteerism
- Leadership experience
- Shadowing hours
- Patient contact hours
- Undergraduate research
- Well-written personal statement
- Strong letters of recommendation
- Well-written secondary essays

## Overview of the AMCAS Application

First, you'll need to make an account on the AAMC website. I used the email that was given to me by S&T. This will allow you to apply via the AMCAS system (same log-in), and you'll be given an **AAMC ID**. This is your ID number that will allow the AAMC and medical schools to keep track of your application.

The application for MD programs is the American Medical College Application Service. It is similar to the Common Application when applying for undergraduate education. This application has nine parts, including:

- **Identifying information**
  - This includes your legal name, birth date, and birthplace, gender, and school identification numbers.

- If you have attended several colleges, keep track of every School ID you are given! This includes *community colleges and colleges that offer dual credit courses* you may have taken in high school!
- **Schools Attended**
  - Includes your high school, and any colleges that you received credits from. You will need your transcript from every college you have attended!
    - To order your transcript from Missouri S&T, use the National Clearing House website, which lets you send them to AMCAS directly
      - [National Student Clearinghouse Transcript Services](#)
      - After you put in your personal information, select “Educational Organization, Application Service, Scholarship and Professional Licensing.
      - Select “American Medical College Application Service” in the drop down menu, and you’ll be set. Check on the AMCAS website to confirm that the transcript was sent. Takes a little while so don’t be stressed if it doesn’t happen quickly.
    - In my case, I had to email the registrar of the community college I attended and we got it ironed out without using the National Student Clearinghouse. There are instructions on how to do so within the AMCAS application, and it involves sending the registrar an official transcript request. I did the same with S&T, but they told me to use the NSC.
- **Biographic Information**
  - This includes our citizenship, permanent address, self identifications (race), languages that you speak, military service, criminal history (hopefully a lack thereof), parents, and siblings.
- **Course Work**
  - This section requires you to input the course name, course number, semester, and grade for each course that you’ve taken in your collegiate career. This is a tedious process, but relatively brainless and a nice break from writing essays.
    - USE THE APPLICATION GUIDE. AMCAS groups your classes under different designations (Biology, Math, Chemistry) and you’ll need to refer to the application guide to make sure you’ve got the correct classification for each course you took.
    - Take your time, and make sure everything is correct when you input the information. It will make the processing of your application go much smoother and you’ll avoid many future headaches.
      - [2024 AMCAS™ Applicant Guide \(aamc.org\)](#)
  - **REQUIRED COURSEWORK** - Each school will have its own set of prerequisite courses that it requires students to take before you can apply to their school. You can find this information with an MSAR subscription. The list below is a general one. Apart from Biochemistry, every course that medical schools will require are also required to graduate at Missouri S&T with a B.S. in Biological Sciences! If you’re not going for Biological Sciences, sit down with your advisor and plan our your degree so that you’ll cover all your bases. A good rule of thumb is:

- 1 year of English (two semesters)
- 1 year of Biology (two semesters)
- 2 years of Chemistry (four semesters, Chem I and II, Orgo I and II)
- 1 year of Math (if you finish Calc I, you'll be fine, they count Trig too)
- 1 year of Physics (with labs)
- 1 semester of Genetics
- 1 semester of Biochemistry
  - Not everyone requires this, but a few schools did. Good idea to take it anyway.
- I've included more information later in this document about good classes to specifically take at S&T.
- Most schools want to see a GPA above a 3.5, some say 3.7. This is not ABSOLUTELY necessary, as some students go through great trials in college (death of a family member, sickness, working full time, etc.) that can cause the GPA to drop. There are usually sections where you can explain these challenging periods of your life, and how you managed to write the ship in later semesters with hard work and dedication.
- Aim for an A in every course. Turn in your work on time. If a teacher is very difficult to deal with (and there are some), you may have to read the textbook and do more work for their class for that grade, but DO IT. Your hard work will pay off. If you don't get an A in a course, don't think that the sky is falling. It will be okay, just learn from that experience and try new study strategies that work better for you!
- **Work/Activities**
  - The activities section allows you to include 15 of your experiences that have made you a strong applicant. These include work, volunteering, leadership, shadowing, and research experiences that make your application the strongest.
    - **Most Meaningful Experiences** - you'll have an opportunity to designate three of these experiences as being most significant or impactful on you in your preparation for applying. You'll be given **1325 characters** to describe these experiences, as opposed to the 700 characters for the other experiences in your application. These should be experiences that have contributed to significant personal development, and helped you decide on a career in medicine. They should be ones that you can easily talk about in interviews, and they should strongly correlate with the Core Competencies that are on the site below.
    - Quality is better than quantity. Don't include 15 if you only have 10 great experiences! Check to see if your experiences exemplify several of the [Core Competencies of Entering Medical Students](#).
    - Have someone check over your writing in this section. At 700 characters for most of these, your writing should be succinct, as every word counts. I had professors and advisors read some of them, and my mom also helped. Any revision and set of eyes on your writing is beneficial.

- You'll find more information in this document about specific volunteering and medical work opportunities, as well as extracurricular activities for pre-med students!
- **Letters of Evaluation**
  - These are letters, written on your behalf, by professors, physicians, coaches, employers, or others that have seen your professional development over at least a year's worth of time. It is better if the letter writer can speak to your competencies as a student and future professional. Different schools require different amounts of letters. Usually, submitting 3-5 is a safe bet for most schools. Some will allow up to 10, but again, quality over quantity.
    - **Committee Letters** - these letters are written by a committee of professors, and usually requires you to send them your resume and personal statement. Dr. Shannon is the head of the pre-med committee at S&T, and you can request a committee letter from her with an email or meeting. She usually sends out a spreadsheet that allows you to sign up for different times and dates. These can count as three letters to some schools, and are often good enough on their own to satisfy your requirement for letters on the application.
    - I had my head football coach, a professor, and a physician write my letters, attempting to provide a well rounded look at me as an applicant. I also had a committee letter that I submitted (four total letters).
    - Avoid requesting letters from physicians that you've only shadowed once, or family friends. These writers may have the best intentions in writing the letters, but may not be able to say anything of substance about your professional readiness. Some admissions folks I've talked to have strongly advised against it.
    - **Coaching your letter writers:**
      - Even if your letter writers are physicians and professors, they may not know how to write a *strong letter* for you. Once they have accepted your request to write a letter, you should send them the file below (guide for writing a letter of recommendation). Medical school letters are different than ones that are typically written for job applications or scholarships. They need to tell stories about your ACTIONS in class, research, on the job, or while shadowing that illustrate your competency as a future professional. They can't just say "She/he is a great kid and would make a great doctor."
      - One of my letter writers was my football coach, and he hadn't written one of these medical school letters before. I helped him through the process. It can sometimes feel like you're writing your own letter in some situations, but that's better than the submission of a weak letter.
      - **DON'T coach up the committee letter writers. They know what they're doing.** Be careful about overstepping your bounds too. If a professor has written these before, they may not appreciate your

“help.” You can send them the document below in an email and thank them for taking the time to write a letter for you. **ALWAYS THANK YOUR LETTER WRITERS.** I sent mine thank you cards. It’s just a nice thing to do, because they’re helping you out!

- [files.aamc.org](http://files.aamc.org)

- **Medical Schools**

- This is where you choose the medical schools that you’d like to apply to. The choices you make on where to send your application should *reflect your competitiveness*. Sit down with Dr. Shannon or another trusted faculty member, and ask them to evaluate your readiness for applying, and what schools they think you have a good shot at.
  - It is very possible to have an outstanding application, but you need to reflect on which schools you have the best chance of getting into. If you don’t have a rockstar application, applying only to high tier schools (Ivy League, Mayo Clinic, Johns Hopkins) can be a waste of time and money.
  - Most people send their applications to 10-20 schools, with some people applying to as many as 40.
    - You want to cast a wide net because it is a competitive process, but you also don’t want to bite off more than you can chew. If you apply to 40 schools and they all send you secondary applications, which usually include anywhere from 2-5 required essays, you won’t have much time to focus on each, which could hurt your chances at each school. I applied to 14 (I really had 13 on my list, but I thought that that was unlucky).
    - Pick a few “safety” schools, some schools that you think you’re competitive for, and a few dream schools!
      - I had two dream schools, two safety schools, and 10 schools that I thought I’d be competitive for.
    - **State Schools Vs. Private Schools** - State Schools (like Mizzou, UMKC, University of Kansas, etc) often have a strong preference for in-state applicants for acceptance. There are always some out of state applicants that are accepted, but if you are not a resident, or you don’t have a significant connection to the state (used to live there, have family there, etc.) then your chances aren’t very good. Private schools accept a majority of out-of-state students, and they are generally more expensive. If you are from Missouri, apply to Mizzou and UMKC for sure! You can apply to other state schools, but just know that your chances aren’t great.
      - I applied to a lot of state schools for which I did NOT have a significant connection to those states, which was a big time mistake on my part. Hopefully you can learn this lesson the easy way, as I already learned it the hard way.
    - **MSAR** - This is a database called the Medical School Admissions Requirements, and it is run by the AAMC. It lists every MD medical school in the country, and all of the metrics you will need to judge if you are a

competitive applicant. It lists the school's median MCAT, GPA, class size, and tuition. It will also tell you how many letters of recommendation you can submit, and if you need to take the AAMC PREview or the CASPer exams for their applications.

- Subscriptions for MSAR cost \$28 for one year of access, and \$36 for two years. You can get a free MSAR subscription if you apply to the AAMC Fee Assistance program that is discussed later in this document.

- **Essays**

- This is where you will submit your personal statement, or what AAMC calls your "Personal Comments Essay." This is a chance for you to tell the medical schools anything that your Work and Experiences section hasn't already. Many folks talk about overcoming personal tragedies, overcoming adversity, or some inspiring stories from their past that led them to an interest in medicine. Your personal statement should answer two questions: "Why medicine?" and "Why you?"
  - Why medicine? - the admissions committee wants to see your desire for applying to the medical field. Saying "I want to help people" may be a good reason, but it's also one everyone else will have written about. You'll want this to be unique, and you want it to sound genuine, which is a tall order! Your reason(s) need to be strong, because medical training is a hard road. When you are faced with adversity and stress, it is those core reasons that you will fall back on for motivation.
    - I started by journaling all the reasons I wanted to be a doctor, and was brutally honest with myself. It was a good exercise in self reflection, and admissions committees want to know that you know yourself and your motivations. Introspection is important.
  - Why you? - There are many people that want to have a career as a doctor. This is one of your chances to explain why you specifically deserve to attend medical school! You want to avoid sounding generic at all costs! Being authentic is a good way to stand out, and you want your voice and tone to come through in your writing. Telling personal stories is a good way to accomplish this.
    - In my statement, I had a theme of "mental resilience" and talked about three stories that exemplified my ability to get through adversity. Having a theme can keep you on track and keep everything cohesive!
    - There can be **NO FLUFF**. You have **5300 characters** to play with, including spaces, in your personal statement. This equates to around 1,000 words. This is your opportunity to tell the interviewers why you're a unique and awesome person, so don't waste sentences with big words or ingenuine sentences that sound impersonal. Keep a watchful eye on repeating or restating ideas too, each sentence should add something to the statement.

- **Things to avoid:**

- “Ever since I was born, I wanted to be a doctor,” with no supporting reasons or experiences. You need to have concrete reasons why you want to be a doctor that are backed up by experiences you’ve had. That’s great if it’s always been your dream, but you should have done some work to confirm that interest in the time since you were very young. It’s also stereotypical, so it could blend into the woodwork.
- **Sob stories** - admissions committee members read a lot of sad life stories, which are significant, and most likely shaped your interest in medicine. A lot of people do this though, so it can fade into the woodwork. A very common story is that a family member passed away and that spurred someone’s interest in medicine. That may be true, but it’s not unique and it doesn’t explain how you have some of the core competencies of a future doctor.
- **Lying** - it’s really hard to keep track of lies you tell in an interview, and they can ask you about anything you wrote in your application! Don’t lie, it makes things very complicated and is DETRIMENTAL to your chances if they find out.
- **“I just want to help people”** - every student that wants to be a doctor wants to help people (hopefully!). It isn’t unique. It’s great and it should be true, but it shouldn’t be the only thing you write about your motivations for pursuing a medical degree.
- You want as many eyes to see your personal statement as possible! I asked Dr. Shannon, Dr. Semon, Dr. Westenberg, my parents, and other trusted colleagues to look over mine. You will get different feedback from each one and some may conflict, so you’ll have to decide which advice to implement sometimes. If two different reader’s have the same advice, you should probably include those changes.
  - The Writing Center on campus is also a great resource to use when writing your personal statement. The employees there have helped others write their statements, and they’re another set of eyes. Schedule an appointment with them on their website, or by emailing [writing@mst.edu](mailto:writing@mst.edu).
  - [writingcenter.mst.edu](http://writingcenter.mst.edu) – Writing Center | Missouri S&T
- This may take you several tries before settling a draft that you’re proud to put on your application. I wrote mine three times before I settled on a format that worked, and that I and my reviewers were happy with. Don’t get frustrated, there are a lot of things to balance and include in those 1,000 words.
- **Standardized Tests**
  - This is where your MCAT and PREview information will be. When you register to take your MCAT or PREview it will be through the AAMC, so they will have your scores automatically uploaded to your application once it is scored.

- **MCAT Scoring** - the MCAT is scored on a scale from 472-528. This test is scored based on percentile, meaning that your test is compared with everyone else that took the MCAT that year. Finishing in the 80th percentile means that you scored better than 80% of the people that took the test. 500 is the 50th percentile. A score above 500 is almost necessary for MD programs, with many of the programs having minimum MCAT scores of 498 (info can be found on MSAR). 510 will make you a relatively competitive applicant, and anything above that is great!
  - Each section of the MCAT (four sections) is scored out of 132. You want to try for a score of 127 on each section if possible!
  - Look at schools' MCAT metrics on MSAR. It is a good thing to have a better-than-average MCAT score for that school to be competitive, and even better to be in the top quartile of scores. If you are below average you can of course still apply, but you won't have the best chance.
    - Schools usually have an average anywhere from 500 at the low end, to 522 or above for the most prestigious schools.
  - **Minimum MCAT Requirements** - some schools require a minimum MCAT score to even consider an application for admission. This minimum score is often somewhere around 496 or 500. The minimum MCAT for Mayo is 508, which is the highest one I saw while applying.
  - Information on studying is included later in the document.
- **PREview** - this is the "Professional Readiness Exam" that some schools require (listed below) for their applications. It is scored on a scale from 1-9, and it judges your critical thinking and ethical skills. It involves 30 scenarios, on which you will answer 186 related questions. To prepare for this exam, practice exams are a good idea, and there are some resources on Youtube or elsewhere that can help you prepare. Knowing the AAMC [Core Competencies](#) is important for this exam, as you want your answers to reflect those!
  - I did not do so hot on the PREview, so I may not be the best source of information on it. I would look [here](#) for background information, and [here](#) for study and preparation tips.
  - [LIST OF SCHOOLS REQUIRING PREVIEW](#)
- **CASPer** - this test will NOT show up on your AMCAS application, and is through a separate entity called Acuity Insights (formerly called Altus Suites). You will take three tests that fulfill the CASPer requirements for the schools that want those scores. The three tests are the Casper test, the Duet test, and the Snapshot test.
  - Casper - This is a situational judgment test that will take you through difficult and ethically challenging situations, and asks you what your action would be. Some of the situations are videos, and some are text prompts. In the first half of the exam, you will reply to the situations by typing. Type fast! The second half is a video response section, where you'll get two minutes to explain your answer.

- Scoring - these tests are scored on a quartile range, so you'll be in one of four groups, but you won't get a numerical score back. I was thankful to do well on this exam, so not all the situational judgment tests are created equally!
  - [More information](#)
- Duet - This is a value alignment test that will ask you to make a series of decisions between two distinct prompts. These prompts will say something about your values and ideals. Schools fill these out as well, and it helps them see if your values are aligned with theirs. You don't need to prepare for this exam, be genuine! You could potentially do your research and look at your dream school's mission statement, and try to align your answers with their ideals, but that's a hard game to play. This test is supposed to help you end up in the right place! I'm not sure how much weight schools place on this test though.
- Snapshot - This was a test that was taken by applicants for the 2022 and 2023 application cycles. Anyone applying now should not be required to take it! Just including this if you hear about it somehow. It was just a one way interview.
- USE THE [APPLICATION GUIDE](#) IF YOU ARE CONFUSED ABOUT ANYTHING IN THE AMCAS APPLICATION.

## Cost and Fee Assistance

- The application fee is \$173, plus \$43 dollars for each additional school you apply to. For example, if you apply to 10 schools, the application fee is \$173, plus  $9 \times \$43 = \$560$ . I applied to 14 schools, and ended up paying around \$700 dollars.
- [Fee assistance](#) - This is a program run by the AAMC. It can help with **MCAT and AMCAS application costs**. You have to apply for assistance through the AAMC website that is hyperlinked, and awards are given based on need. The benefits of the program are listed below.
  - Reduced MCAT cost from \$330 to \$135.
  - FREE MSAR subscription for 2 years.
  - Waiver for your AMCAS application fees, up to 20 schools (\$987 covered).
  - Waiver for the AMCAS PREview test (\$100).
- **Secondary Application Costs** - In total, for submitting 12 secondary applications, it cost me \$945. For some schools, it was free to send in my secondary application, and the most expensive school cost me \$125. Normal range for costs is \$50-\$100 per school. The exact fee amount can be found on the MSAR site.
- **Total** - It can cost **\$2-3k** depending on how many schools you apply to. The Fee Assistance program can reduce this cost significantly, so look into it!

## Advice From the Admissions Office

I've met with the head of admissions at UMKC, and I've compiled his advice in this section. He is directly involved in reviewing applications, so this information is very valuable when filling out your application! I asked him for more specific numbers of hours that they like to see (ex. 100 hours of shadowing, or 50?) and he said that double digits is really what they look for.

- **PROS of an application:**

- Each experience should have at least a double digit amount of hours committed to it. It shows that the experience was likely significant, and in some cases it shows prolonged commitment. **Prolonged commitment** is impressive for admissions committees. If you volunteer at one place for three years, that's better than doing a lot of volunteering for one weekend. Show that you can **stick with something**, because you'll have to stick with it and be dedicated in medical school.
- **Quality experiences over quantity** - if you include random experiences that don't have much dedicated time involved, it can be seen as padding your resume.
- **Diverse shadowing experiences** - This shows that you've explored many aspects of the profession, and that you likely know what a physician actually does. Try to have experiences with several different specialties.
- **Exploration of the profession** - as mentioned above, shadowing different specialties, and having enough shadowing hours shows that you've done your due diligence before heading down this long hard road. Some applicants think that being a doctor sounds cool, but they don't actually know what the day-to-day is like. Those applicants are less likely to stick it out when things get difficult, or they don't like their clinical rotations.
- **A logical, organized personal statement** - if your personal statement is all emotion, and only includes the fact that you "dreamed about being a doctor since you were 5" then it's not as powerful as a statement with supported and logical reasons that you're interested in medicine. It's fine if you've always been interested, but talk about experiences that confirmed this interest, and how it grew overtime.
- **LEADERSHIP EXPERIENCES ARE VERY IMPORTANT** - you want to have multiple experiences to talk about (in clubs, appointed positions, etc.), and you want to be able to talk about some specific projects that you contributed to. Lots of people chase these positions and do nothing when they get them (coasting) but it's more valuable to be able to talk about your specific contributions to the club, etc.
  - I helped to plan a "Stop the Bleed" event with MAHEC and SCRUBs, and it's a concrete project that I could talk about in interviews.
- **Non-healthcare experiences** - you want to be well rounded. You need to have your healthcare experiences to show that you have investigated the profession, but the non-healthcare experiences say more about your character. If you

volunteer at a homeless shelter and not just in the hospital, it can show that you're not just all medical all the time, and have genuine compassion for others.

- **Prolonged relationships with the people that write your letters of recommendation** - this can be several months to years, but if you have a prolonged and significant relationship with the people that write your letters, their stories about why you're a good applicant will be more significant. Don't ask a doctor that you shadowed one time.
- Experiences involving **leadership, research, campus involvement, volunteerism, and exploration of the profession**.
- Unique experiences can help you stand out, and if you've pursued a hobby, won awards in that hobby, or done something significant with it (singing in a public performance, playing collegiate sports, competing in chess tournaments, etc) you can include it on the application. As long as you can show a prolonged dedication with it.
- **Patient contact hours** - it's good to have some patient care experience (PCA, CNA, EMT, medical assistant) because it can improve your interpersonal skills and bedside manner. In my experience, it also gave me some great stories for my interviews.
- **CONS of an application:**
  - **Less than 10 hours** for an experience. Shows that your experiences might be quantity over quality oriented.
  - **Doubts in letters of recommendation** - this seems obvious, but MAKE SURE that you have a good relationship with your letter writers and really think about who you ask to write them. The head of admissions said that they get some negative letters every year of a professor that has doubts of a student's readiness to attend medical school.
  - **Family friend writing a letter of recommendation** - I've heard that this can be a negative from a few sources (physicians, head of admissions, admissions committee member at Mizzou). The letter writer has to disclose their relationship to the applicant when they submit the letter. The integrity of the letter and all the great things they say about you can be in question if they're a family friend, because they could be pretty biased. They may not be able to judge your professional readiness without bias.
  - **No investigation of the profession** - if you haven't shadowed or haven't had a job in healthcare, it begs the question, how do you actually know you want to be a doctor? Many applicants just want to be rich, and know that doctors make good money.
    - **PSA** - If you are only motivated by money, medicine might not be a wise professional path for you. You have to give up your 20s, all your friends are going to be getting jobs, going on vacation, and building their lives, and you'll still be in school making negative money. This is a long road, and requires 6-11 years of training AFTER college before you practice on your own. If you are purely motivated by money that's okay, but be honest

with yourself because another career with an easier path and less time investment may be better.

## When Should I Apply?

- This is not such a cut and dry question, as there are many options for when you should apply. The short answer is that you should apply when your application is *competitive* and you have a good chance of being accepted, as determined by your advisors and mentors. I asked all of my mentors if applying when I did was a good idea, and they all agreed that my application was competitive enough for a potential acceptance (no guarantees of course). Be extremely honest with yourself as well in judging your own readiness, because applying is a financial commitment as mentioned above.
- **“Traditional” time to apply** - the summer after your Junior year of college. The application submission portal generally opens in early May. This year (2023) it opened on May 2nd. This is when you’re allowed to work on your application and get it ready for submission (writing and inputting the data, essays, etc.). The application SUBMISSION opened on May 30th, which is the first day that you can submit the application. These dates change slightly from year to year (in my year, it was May 3rd and May 31st).
  - Submit soon after it is possible to submit your application. With schools that offer interviews on a rolling basis (offering small groups of students interviews every month) you want to get your name in the hat before they make too many admissions decisions. I sent mine in on June 7th, as I had some editing to do before I submitted it. Make sure your application is free from mistakes, read over it several times. Typos are worse than submitting it a few days later.
  - If your junior year finishes in the Spring of 2023 and you send in your application in the summer of 2023, you’ll be applying for the “2024 cycle.” This means that if accepted, you’d start in the
- **“Non-traditional” application timelines** - if you and your advisors determine that your application is not very competitive, it may be necessary to take a gap year, or several. Many applicants take gap years to work in medicine or research, and gain more volunteering/shadowing experience to make their applications stronger. I’ll talk more about possibilities for gap years later in this document. Whichever year you decide to apply, the application window will open in late May.
  - Some folks take MANY years off, pursuing other careers in research or graduate school (Masters of Public Health, etc). This is totally fine! Everyone has their own experience with medical school applications, and one way isn’t right or wrong.

## What Happens if I Don’t Get In?

- Unfortunately, with the competitive nature of medical school applications, this is a real possibility for even the best applicants. There is a lot you can do to make your application very strong, but sometimes it’s not in the cards for this cycle. This can be frustrating, because reapplying requires another investment of time and money, with no

guarantee of acceptance. Stay strong and keep at it. Many folks I've talked to in school had this experience, and their passion for the career kept them going.

- **Plan for this possibility** - if you do not get in, it is always good to have a back-up plan. The next year till the application cycle can sort of serve as an involuntary gap year, and it is an opportunity to further strengthen your application.
  - **IMPORTANT** - When you reapply, many secondary applications will require you to explain how you have been proactive in strengthening your application since the last time you applied. Make sure that you build your volunteer, work, and/or shadowing experience in this time so that you'll have a good answer! Doing nothing in the time off, and relying on your past experiences is received poorly by application committees.
  - **Reapplying can be a benefit to an application** - it shows your resilience in the face of adversity. This is not an easy road, and your willingness to stick to it can be seen as a positive in the admissions process.

## Volunteering in Rolla

There are a wide range of opportunities in Rolla for volunteering! If you join some extracurricular clubs on campus, they will likely have outreach events that you can participate in. It is good to have some consistent, long standing volunteer activities on your resume. I was a volunteer with Mentoring Makes a Difference for 5 semesters, and the admissions folks like to see a long standing dedication to an organization. Your volunteering does **not have to be medically related**. Admissions likes to see that you are a well rounded and compassionate person, and volunteering outside of medicine can show them that. Pick a cause you are passionate about, and see what you can do to help! It is also possible to kickstart your own events when you are part of a club's executive board, so remain creative (e.g. coat drives, food drives, fundraisers for a local organization, etc.).

**IMPORTANT:** Keep track of every time you volunteer in a spreadsheet or your notes app! Write down the date you volunteered, what organization it was with, and how many hours you did it for. When you apply for medical school, you'll have to give a specific date range (when the volunteering happened) and **HOW MANY TOTAL HOURS YOU DID IT FOR**. Logging it is very important for accuracy, and so that you don't forget how long you've been volunteering with a particular organization.

- **Rolla Mission**
  - This is Rolla's Homeless shelter. It is a great opportunity to exercise your compassion, and work with folks of all different backgrounds. It profoundly impacted my understanding of homelessness, and I think it will help me care for patients in the population in my career.
  - Application site: [GET INVOLVED | therollamission](http://GET INVOLVED | therollamission)
  - This is a good opportunity for those prolonged volunteering experiences that admission committees like to see.
- **Mentoring Makes a Difference**

- Mentoring opportunity run by the Prevention Consultants of Missouri. You can serve as a positive role model for children with difficult home lives! I did this for 5 semesters, and it was awesome. For much of that time, I was paired with the same kid, and I helped him finish his homework and build study skills! We also played on the playground quite a bit. I'd highly recommend it!
  - General Information: [Mentoring Makes A Difference – Prevention Consultants of Missouri](#)
  - Linktree for the application: [pcmomentoring | Instagram, Facebook | Linktree](#)
    - After the application is submitted, you'll interview with them, it's sort of like a job interview! They'll also do a background check.
- **Russel House**
  - The Russel House is a safe place for women that have experienced sexual or domestic abuse. You can volunteer in many capacities, from groundskeeping to baking! I did not personally volunteer here, but it is an amazing organization!
    - Contacts for the Volunteer Coordinator
      - Phone: (573) 832-5394
      - Email: [info@russelhousemo.org](mailto:info@russelhousemo.org)
    - More information: [Volunteer - Russell House • Rolla, MO \(russelhousemo.org\)](#)
- **G.R.A.C.E. Food Distribution**
  - Greater Rolla Area Charitable Enterprise
  - Food distribution days are every third Saturday of the month, from 7:30 AM to 12:00PM.
    - Get in contact with them to see if there are other opportunities if you'd like! I have limited experience with them.
  - Contact [creighton.carol@gmail.com](mailto:creighton.carol@gmail.com) for more information on volunteering!
  - You can also call G.R.A.C.E at (573) 368-5577
  - [Get Involved – G.R.A.C.E. \(gracerolla.org\)](#)
- **Salvation Army**
  - I believe that you can call them directly and ask if they have any opportunities for volunteering! They need help with donation intake, organizing the store (especially around holiday seasons, changing out the Halloween stuff for Christmas stuff, etc.) and upkeep.
    - Contact: (573) 368-4919
- **Kaleidoscope Center**
  - This is a STEM focused organization for younger children. You can volunteer and run classes, do building upkeep and organization, and more. You can fill out a volunteer intake form at the site below.
  - [Volunteer Opportunities – The Kaleidoscope Discovery Center](#)
- **Hospice Volunteering**
  - You can volunteer in a hospice setting with Phelps Health. I haven't personally done this, but the website below has a number to call if you'd like to inquire about it. I've heard classmates at S&T and medical school talk about hospice

volunteering, as it is a good opportunity to show your compassion with a patient that is going to pass soon.

- [Hospice Volunteers \(phelpshealth.org\)](https://phelpshealth.org)

- **Science Olympiad**

- Dr. Dave Westenberg plays an integral role in putting on the Science Olympiad for local schools, and it usually takes place during the spring semester. It is a STEM based competition for local children with tests in various aspects of science of math, including anatomy. One year, with SCRUBs, we volunteered to write an anatomy quiz for the event. You can also be a volunteer at the actual event, as they always need help with proctoring tests, set-up, and take-down. You can email Dr. Westenberg and let him know you're interested in helping out, but this wouldn't be a long-term volunteering experience.

- **Church volunteering**

- If you're part of a church or religious organization, they usually have volunteer opportunities. This can be community outreach, or volunteering within the church for services, etc!

## Employment and Work Experience

- **Phelps Health - [Job Search Results - Phelps Health \(healthcaresource.com\)](https://healthcaresource.com)**

- **Patient Care Associate**

- In this role, you'll be working with other "PCAs" and nurses on the floor in one of the six wings of the hospital. Depending on their need at the time you apply, you can work on one floor, or as part of the float pool. I enjoyed being part of the float pool because I saw each floor, and really learned how a hospital worked from admittance to discharge for a patient. They have a **PCA Academy** that includes pretty extensive on-the-job training, so no prior experience is necessary. They will have classes and training several times a year, including a summer course which was most convenient for me. There are programs like this at many other hospitals (Boone in Columbia, MO, for example), so if you'd like to go home and work there over the summer, there should be options like this!

- This job includes a lot of the dirty work in the hospital, including cleaning up some incontinent and sometimes non-hygienic patients. It is a great opportunity to practice your compassion and develop your bedside manner, and it has made talking to patients infinitely easier in medical school! If you're overly squeamish though, you may not enjoy it.
      - Be prepared to work 12 hour days in this role. Sometimes, if you're hired as an "irregular part-time" employee, you can do 4 or 8 hour shifts. 12 hour shifts are the norm though, and the shorter shifts can make things complicated for the people that you work with (replacing you midday, etc). The shifts are usually 7AM to 7PM, or 7PM to 7AM if you work nights.

- Working nights is difficult mentally, but the shifts are less hectic as many of your patients will be asleep. I liked working days because I enjoyed talking to my patients, and being busy helps the day go by quickly.
- Look for “Patient Care Associate Trainee” positions on the website above.
- **ED Technician**
  - Several classmates of mine worked as ED Technicians for Phelps Health. They do on-the-job training, and prior experience is not required. ED Tech’s only work in the Emergency department. They learn most of the skills that a PCA does, and they also learn how to take a 12 lead EKG, and are allowed to take out IVs as well. The ED is more fast paced, and involves taking a lot of urine samples, taking folks to the bathroom, and cleaning/prepping rooms for new patients. I enjoyed it down there! These shifts are usually 12 hour shifts as well.
    - Look for “ED Technician” on the website above.
- **Patient Sitting**
  - In this role, you’ll be assigned one to three patients to watch for your shift, “sitting” with them for the entirety of your day. The patients that need sitters require extra surveillance, as they can pose a danger to themselves for a litany of reasons. In the emergency department, some patients have been admitted for suicidal ideation and require a sitter. Some elderly patients with dementia or other related diseases can be very confused, which can lead to violence or erratic behavior that requires an extra employee.
    - You are not allowed to be on your phone, read, or distract yourself in any way really, because you need to be monitoring the patient. Unfortunately, this means the job can make for some very boring days. I believe that it counts as patient contact hours though, which is a positive thing for applications. I’d recommend PCA positions over patient sitting for a better patient care experience, but both would be fine.
    - Look for “Patient Sitter” on the website above.
- **Medical Scribe**
  - Scribing allows you to work up close and personal with an emergency department technician, and gives you valuable experience in taking patient histories, and how a doctor thinks through potential diagnoses. In my understanding, you do a lot of the clerical work for the doctor you are assigned to. Having close relationships with physicians is also valuable in the downtime that is sometimes experienced in the ED. You can ask them questions about their journey through medicine, and they can introduce you to different tests, diagnoses, and medical jargon that will be helpful later in your career.

- **APPLYING** - Phelps Health hires their medical scribes through ScribeAmerica. Go to the website below, and you can apply for the job there. They will contact you with some follow up steps (paperwork, etc) and then you'll be interviewed usually.
- [ScribeAmerica - Medical Scribe Program for Doctors, Hospitals & Eds](#)
  - **ATTENTION** - Scribing does not count as "patient contact hours" to some schools, because you're not actively treating or seeing patients as the scribe. This could be a hindrance, but scribing is still a very valuable experience. It shows that you are "investigating the profession" (of a physician) and that you're dedicating your time to it. The face time with physicians is very valuable. Even though I was a PCA for a year, I hardly ever directly worked with doctors, and mostly worked with the nurses. I spun my description of that experience to focus on the patient care and compassion, while the description of a scribing position could talk more about the history taking and physician interactions.
- **Campus Jobs** - great options for busy students and student athletes, with less hours/week than a part time job!
  - **Student Success Center - apply on Handshake.** Go to the SSC and ask about when applications open for each semester if you don't see anything on Handshake.
    - **Tutor** - you can tutor for any class that you have received an "A" grade in. They always need tutors for Chem I and II, Organic Chem I and II, any of the Calculus classes. I tutored a LOT of chemistry students, not so much for my biology or math classes. This had the awesome benefit of keeping me fresh on my chemistry content, especially organic chemistry, which is important on the MCAT. You can work 6-8 hours/week, with one monthly meeting (one hour) and occasional shifts at TJ on Wednesdays (5-8PM, two per semester). It also helps you build the skill of breaking down difficult concepts into manageable pieces, which you'll do often as a physician.
    - **Coach** - involves helping students with study and organization skills. Students that are struggling with the adjustment to college curriculum, or sometimes just struggling to get to class need an academic role model! Great opportunity to share your good habits with others, and develop those interpersonal skills.
  - **Peer Wellness Educator** - this is a paid position through Miner Wellness. It involves teaching courses on substance abuse, sexual wellness, assault prevention, etc. A service oriented job that is directly involved with education and campus wellness efforts. Not sure how to apply for this job, but I believe you have to be a "Joe's Peer" first. This is an unpaid position, and involves going to Miner Wellness meetings. Application to join can be found on the page below, as well as more information on the position.
    - [JoesPEERS – Student Well-Being | Missouri S&T \(mst.edu\)](#)

- **Tour Guide** - You can also lead tours around campus, which is a great opportunity to build those interpersonal skill muscles.
- **HANDSHAKE** - to find any campus job, look on Handshake (you'll have access through Missouri S&T, just look up "Handshake mst"). Look up Missouri S&T as an employer, and peruse their job listings to see if there's anything interesting. There are sometimes research positions there.
- **EMT certifications**
  - I have limited experience with this. I know that Mizzou offers an EMT course, and if you have a community college or hospital near where you live, you can explore their options. Several students have gotten their EMT licenses and worked while attending school. Great experience for trauma situations and basic life support, as well as working in a team under pressure.
- **CNA certifications**
  - CNA certifications can be obtained through local technical schools and community colleges. I've listed several below. This job is essentially the same as a PCA, but it also allows you to work in nursing homes and the Transitional Care floor in Phelps Health. They are a state certification, while a PCA certification is just within the hospital that trains you.
  - [Certified Nurse Assistant - Rolla Technical Institute/Center \(rolla31.org\)](http://rolla31.org) – they offer a 9 and a half week course, with classes from 4PM to 8PM. Includes 75 hours in the classroom, and 100 hours of on the job training in an associated nursing home I believe. This requires payment as well, but I couldn't find the exact numbers.
    - Many folks also get this certification through career centers in high school. I did not do this, so I went the PCA route instead, as the hospital paid me to train, instead of me paying for a course.
- **Private Practice**
  - There are some limited positions open in private practice offices, and I've spoken to classmates that have worked in secretary/receptionist roles in those offices. In these roles, you'll gain some experience with the documentation involved in running a private practice. In some cases, you'll also be responsible for getting the patient's past medical history and documenting it, which is great practice for your future career as a physician!

## Leadership Experience at S&T

You will list your leadership experiences and positions in your AMCAS application, and they're important to most medical school admission committees! You want to have CONCRETE ways in which you contributed to the club, and planning projects or outreach events is a great way to do that. Make an effort and take real initiative. MANY pre-med students join clubs because they're "supposed to" and proceed to do the bare minimum, often times less than the bare minimum, because they just want to put it on their resume. Taking initiative and being a leader in your

clubs is a way to set yourself apart from those students. Join clubs you can be passionate about, because it is easier to devote your time to them.

- **HELIX**

- HELIX is a Life Science Social Club and a student branch of the American Society of Microbiology. Here you can make new friends and take part in their activities, trips and volunteer projects. Open to anyone of any major. Some of their activities include: -Humane Society Trips -S'mores n' Scheduling -ASM (American Society of Microbiology) Annual Meeting -Cave Trip -Open Lab
  - Many of the BioSci clubs are often in need of members and present good opportunities to get a leadership position early on in your career at S&T. Any club that needs help is a great opportunity to step up and make a change in membership and outreach.

- **iGEM**

- “Internationally Genetically Engineered Machines” is a group focused on synthetic biology. The “parts” of these machines are receptors, ligands, transcription factors, and many other cellular components that are designed at the nucleotide level. You can gain experience with experiment design, CRISPR/Cas9, microbiological “machine” design, and general lab work. This would be a very unique thing to talk about in interviews, and a good place for leadership experience.

- **SCRUBs**

- Missouri S&T's pre-health society, including those that are interested in pre-med, pre-PA, and pre-VMD. This is a great opportunity to lead in a healthcare related club. My advice would be to join as a member for at least one semester, and then you could run for a leadership position in the spring! Work with Dr. Shannon, take initiative, and try to make significant contributions to club events, because your efforts are what you'll talk about in **interviews!**

- **Phi Sigma Biological Sciences Honors Society**

- You are eligible to apply for the Phi Sigma Honors Society as a Junior. This club is interested in furthering research efforts in Biology, and requires you to have a GPA above a 3.5. I was an officer in this club, and any Honors society is great! We did volunteer work as well, which was an added bonus. Look to apply in your junior year, and contact Dave Westenberg if an invitation has not been extended to you.

- **Spelunkers/Backpacking/Climbing clubs**

- These are often of interest to biological science/pre-health students! Great clubs that allow you to be active, and have a well rounded application.

- **Blacksmithing Club, Swing Dancing Club, Chess Club, Underwater Basket Weaving, etc.**

- Any unique club that you have an interest in and are passionate about is great for applications. You don't want your application to be ALL medically focused, and its good to have some unique things to talk about. You want to be well rounded! If you have a genuine interest in something, join that club and become an officer.

Becoming an officer is easier than you think, and if you dedicate even a smidgen of time and effort to the club, you can become a leader quickly.

- Ex. I joined the blacksmithing club. It was something that stuck out on my application and something I enjoyed talking about if someone asked me to explain my involvement.

- **Student Council**

- Student Council is a great way to be formally involved in the decisions made on campus. You can run for a leadership position in student council directly, and they usually send out emails when they're in need of applicants for those spots. I was a student council representative for one of my clubs, which is how a lot of folks get involved with it. You are required to go to bi-weekly meetings, which mostly involve budgetary voting in my experience, but it's a good way to support your club in your earlier years of experience at S&T.
  - My experience with this is limited. I would watch for emails from the Student Body President, and look for more information on MinerLink.

- **MINERLINK** - join clubs on MinerLink (sign in using your S&T email sign-in information) to formally become a member. Most clubs will have their upcoming events listed here as well.

## Undergraduate Research at S&T

- **FYRE**

- “First Year Research Experience” - this is a great way to get involved **QUICKLY** in undergraduate research. Applications are usually due in **NOVEMBER** of your freshman year. You can pick from a list of qualified projects and work with a faculty member as part of a research team. You also present your research, which is great practice for the future, and a valuable experience for your application to medical school! Try to actively participate in your research and understand the purpose of the project, because you want to be able to talk about it in interviews.
- [FYRE Student Applicants – College of Arts, Sciences, and Education | Missouri S&T \(mst.edu\)](#)

- **OURE**

- “Opportunities for Undergraduate Research Experience” - this is also something you apply for. They will match you with a professor and project that matches your interests. There is also a \$500 scholarship associated with it, as it is considered an award! (good for the resume too). I did this after establishing a relationship with a professor on campus (Dr. Semon) through my classes, and volunteering to do research in her lab.

- **Email your professors** if they're doing research that you're interested in! Talking to them after class about research is also a good strategy. This is the way I got started in research. I asked my advisor about research happening on campus, and heard about the Regenerative Medicine lab with Dr. Semon. I read some of her papers, and expressed how interested I was in doing research in her lab, and how cool her previous

research was. She was happy to have me participate, and this can be a great way to get started. You may get rejected if they have a full lab, but you can email other professors as well.

- **Research for Class Credit** - Talk to your advisor about taking “Undergraduate Research” (4099) for credit. I did this for 6 total credits. Usually requires a reasonable amount of work, but good experience, and good experience to talk about in interviews.
- **GREAT RESOURCE THAT SUMMARIZES EVERYTHING I SAID** - [Undergraduate Research – Biological Sciences | Missouri S&T \(mst.edu\)](https://undergradresearch.mst.edu/biology/)
  - There are research opportunities outside of Biological Sciences as well! If you are in another degree program like psychology or engineering there are research opportunities with those professors as well! I don’t have personal experiences in those research fields, but talking with your professors and advisor is always a good place to start.

## Shadowing Opportunities (and how to get them)

- Shadowing is a great way to explore the profession and see what a physician’s day to day is really like. To track and remember you’re experiences, you’ll want to make a nice spreadsheet in Excel or Sheets. In this spreadsheet, include the **date, physician’s name, physician’s phone number/email, hours shadowed, and a description of what you saw that day**. You can read through the descriptions before interviews to remember any cool stories or cases you saw that helped you learn something. Tracking your hours is also incredibly helpful, as you’ll have to input them on the AMCAS application.
  - **Physician contact information** - sometimes doctors will give you their card, and sometimes you may have to ask for their number. This can be weird at first, but it’s something they’re used to! You want to have some way to contact them to set up shadowing appointments in the future.
- Know when to ask questions when you’re with a doctor. If they’re busy or in a stressful situation, it’s best to keep your thoughts to yourself. You want to make a good impression, and you don’t want to be annoying! Just read the room, and if they’ve agreed to have you shadow, they’re often open to teaching you something as well.
  - Forming a good relationship with physician’s that you shadow is beneficial, especially if you shadow them multiple times, because you can ask them to write a **letter of recommendation** later in your application process.
- If you come from a family of doctors, you may already have a robust roster of connections with physicians that you could shadow. Family friends and friends of friends are great ways to get an “in” for shadowing a physician. I unfortunately did not have this experience, and I had to be pretty resourceful in seeking out these opportunities. Below, I’ve included several ways that you can get in contact with physicians for shadowing opportunities!
  - **Mid-MO AHEC** - this organization is focused on informing students about careers in healthcare, and helping them prepare to apply for professional graduate programs. Their office is located in Phelps Health, and they have a job

shadowing program that is available for students in the Rolla area. This is a great way to get initially connected with a physician in Rolla, which can lead to more shadowing opportunities in the future. Go to the website below, and fill out their application for job shadowing - **you'll need a TB test!** Which you can get at student health. You'll also need your immunization history, which can be hard to track down.

- When you shadow one doctor, they may know other doctors that would be receptive to having you shadow, and may even get you in contact with them. You really just need one "in" and you can shadow other specialties by asking around in the hospital.

- **[Mid-Missouri AHEC – Improving Rural Healthcare \(midmoahec.org\)](http://midmoahec.org)**

- **Reach out to friends, family, and professors** - someone in your extended network may know a doctor worth shadowing, especially if you have any contacts in the healthcare field. Doctors are often excited to teach, so asking around can't hurt!
- **Reach out to YOUR doctor** - reaching out to your pediatrician or primary care physician can be a great place to start when shadowing. You've already established a relationship with them, and they'll likely be excited that you're pursuing a career in medicine. You can call their office or ask them nicely on your next visit if they'd be willing to let you shadow.
- **Working at a hospital** - if you work directly with doctors as a scribe, you're basically already shadowing them. You can ask them questions during your shift and you can ask around the hospital about shadowing other specialties you're interested in. I asked the nurses that I worked with if they knew any great orthopedic doctors to shadow, and they put me in contact pretty quickly with Dr. Heincker at Phelps. This is a great "in!"
- **Carpe diem, look for opportunities!** - if you meet a physician by happenstance, you may be able to parlay your conversation into a shadowing opportunity. I was an athlete at Missouri S&T, so I was able to shadow the doctor at Student Health after talking with him on the sideline. I also once met a physician out at Oak Meadow CC, and got his contact information to shadow him in the future. Take initiative, be resourceful, and you'll find plenty of opportunities!

## Curriculum Choices at S&T

- While you're at S&T, there are a lot of courses to choose from, some being easier than others. If your intent is to take the easiest course load possible while in college, you may need to do some serious introspection. There is no easy course load in medical school, and the hard classroom work lasts for about 2 years there. Taking harder classes in college can help prepare you for that work in the future. Having a curious mind also helps, and that always drove me to take the harder biology electives in my later years, especially the medically related ones like Tissue Engineering and Stem Cell Biology.

- While it is good to take difficult classes, you can also live a little, as there are many elective slots in your education and many fun electives as S&T. In your last two years, you'll likely have the opportunity to squeeze some of these "fun" classes in! I took the Blacksmithing class because I'd always wanted to learn how, and it's something that I wrote about on my applications. I think it showed my curiosity and helped me be well-rounded. There are creative writing classes, glass-blowing, and other humanities courses as well that can be fun electives that also make you more well rounded.
- **Other degree programs** - If your degree is not with the Biology department, it may be good to take some of the advanced Biology courses if you have space in your electives. If you don't have space, it's not the end of the world, but MCAT studying will be more intensive. Having a good science background, including Biology and Chemistry, is essential for a good MCAT performance, but you can build that background in many ways.
- **Classes that have prepared me well for medical school:**
  - **Pre-Health Communications** - you should take this in the spring semester of your third year of college (Junior). You'll write a personal statement, get the ins-and-outs of the application process explained to you, and take an MCAT practice test which is very valuable. Those practice tests were the most significant part of my MCAT preparation. She'll also explain how to play out your studying for the MCAT, because there is a wealth of information to pick through. Very valuable class, a must-take!
  - **Health Psychology** - this class is AMAZING for understanding the biopsychosocial model of health and how health can be affected by an untold amount of factors in a patient's life. It also covers the topics of big tobacco, health insurance, and health disparities by demographic. VERY VALUABLE FOR INTERVIEW QUESTIONS, as they will likely ask you about the current state of healthcare in America. Medicine is a mix of science and empathy, and this class helps with understanding a patient's psychology in non-adherence, obesity, and a sedentary lifestyle.
  - **Cell Biology** - teaches you the basics of the cell cycle, cell signaling, transcription factors, secondary messengers, and a ton of other concepts that will come up again and again in your education. AWESOME class that you need to pay attention in. Try to make the concepts stick.
  - **Organic Chemistry I and II** - these classes prepared me well for the MCAT. Pay attention and earnestly try to learn and understand the concepts that they explain. Aim for an A.
    - I had Dr. Schuman for Organic II. His class was really tough, but doable, and it helped me learn the material (out of fear sometimes). I remember more of the Organic I material (ranking basicity, carbonyl chemistry, etc) being more important for MCAT prep though.
  - **Anatomy and Physiology I and II** - these classes are a great introduction to the human body, and each of its systems. The physiology of the heart and kidney in A&P II has helped me already in medical school, as well as my base of

knowledge about the bones, muscles, and cranial nerves. Great classes to take with your required higher-level biology credits.

- **Comparative Anatomy** - taught by Dr. Semon, it is a more in depth version of anatomy that includes the anatomy of other species. It can be medically focused for students that are interested in medicine, and it is a great course for building that base of anatomy knowledge.
- **Biochemistry** - this class prepared me for many of the biochemical concepts in medicine. There are a lot of biochemical pathways to know for medications, hormone signaling, signaling errors in cancers, digestion, the cell cycle (and its relationship to cancer), etc. It is also required for applying to many medical schools.
  - **Metabolism** - taught by Dr. Ercal, an MD that is set to retire soon (sorry if it's not offered by the time you read this). A VERY in depth look at the TCA cycle, glycolysis, drug metabolism, etc. This would be a great course in preparing for medical school.
  - **Molecular Genetics** - this class covers similar topics to those above, but focuses mostly on cellular machinery, and also covers CRISPR Cas9 technology, and some basic genetic engineering. Very cool class with an awesome lab!
- **Microbiology** - the microbiome of the body, especially that of the gut, is important for our health, and maintaining a healthy gut-brain axis of communication. Taught by Dr. Westenberg. He also talks a lot about the implications of antibiotic use, and antibiotic resistant bacteria that may pose a great danger to humans in the near future. Good for understanding the ethical and correct use of antibiotics, which are commonly prescribed in the hospital. Also talks about helicobacter pylori and its connection to stomach ulcers, which we directly talked about in medical school!
- **Biostatistics** - This class is VERY valuable for developing your academic reading skills. It helps you to understand the way that data can be manipulated, and it helps you to think about figures critically in interpreting results. Pay attention and keep your notes for later in your research career.
- **Stem Cell Biology, and Tissue Engineering** - expanded my ability to write academically, read academically, and pursue my own knowledge in academic writing. They are challenging courses, and it helps to round out your skills in resourcefulness, as well as your knowledge of regenerative medicine and the future direction that our field is going. Very cool classes to me that help more with skill development.

## MCAT Studying

The MCAT can be one of the most intimidating parts of the application process, but TAKE HEART! Your Missouri S&T education will go a long way in preparing you for this test. You will have to put in a considerable amount of time and effort in your studying and preparation, but it will all be worth it. I will share a few tips on what I feel was most helpful in preparing for my

MCAT, but everyone will develop different study habits, so you don't have to follow every tip! If you take the Pre-Health Communications class, Dr. Shannon will give you a much better run-down of the process.

- **MCAT Overview** - There are four sections to the MCAT, and the test is all multiple choice. You are allowed three breaks during the test. The first break is 10 minutes, the next break (after the second section) is 30 minutes, for lunch, and the last break is 10 minutes. If you take the full time for each section, and all of your break time, the test can take 7.5 total hours. Without breaks, you'll be sitting in the test for 6 hours and 15 minutes (if you use the full time for each section).
  - The sections are:
    - Biological and Biochemical Foundations of Living Systems
      - 59 questions, 95 minutes
      - Includes 10 short, scientific passages for you to read. Covers the biological information including evolution, genetics, microbiology, and cell biology. They LOVE amino acid structures in this section with the biochemistry, so memorize them to the best of your ability.
    - Chemical and Physical Foundations of Living Systems
      - 59 questions, 95 minutes
      - Includes 10 shorter scientific passages, with more physics and general chemistry.
    - Psychological, Social, and Biological Foundations of Behavior
      - 59 questions, 95 minutes
      - 10 short passages with mostly all psychological and sociological concepts. I remember learning lots of different words for this section that I was unfamiliar with as a biologist. Lots to do with development too (Piaget's vs. Freudian vs Erikson's development).
    - Critical Analysis and Reading Skills
      - 53 questions, 95 minutes
      - This section is reminiscent of the reading section on the ACT, but the questions require a much more intense attention to detail and the use of some intense critical thinking.
    - [What's Tested on the MCAT \(2023\)? – Kaplan Test Prep \(kaptest.com\)](#)
  - **Scoring** - Each section is scored on a scale from 118-132. A score above 127 is a good goal, which would equate to a total score of 508 (127x4) if it was achieved on every section. The sections are scored based on percentile, which means that you are scored against the other students that took the test that year. The 50th percentile (average of all scores) is given a 500 designation, and the scores above and below are better or worse than average.
    - 510 is in the 78th percentile (upper quartile), and it is a common benchmark of a successful MCAT. A score of at least a 510 will make you a competitive candidate for acceptance.

- A score of AT LEAST 500 (some say 507) is recommended for the application to MD programs. The bar is slightly lower for DO programs.
  - If you have a lower score than 507, it is not impossible to get in, but your chances are lower.
- **Types of Questions**
  - **Passage-Based** - These questions make up the majority of questions on the MCAT, and are based on written passages that you will read and think critically about. (Based on the passage...?)
  - **Discrete** - These questions require you to have previous knowledge of what the question is asking you. These are the types of questions you're used to on tests. You either know 'em, or you don't.
- **Creating a study plan (when you're going to study, and how long):**
  - Because the MCAT covers so much material, it is wise to create a PLAN for covering most of it.
  - Some people recommend that you study for 6 months, and others recommend that you study for 3 months. You'll need to come up with a plan that actually works with your schedule so that you will **actually study**. If you make your plan to study 6 hours a day for 2 months, chances are, you will likely NOT be able to keep up that pace.
  - A baseline of 300 hours of studying total was suggested to me.
    - This equates to 2 hours/day, 6 days/week, for 6 months and one week
    - In the spring semester of my junior year, I was VERY busy, and my plan was to study for 2 hours/day, 6 days/week, for three months, which I did successfully. This was about 150 hours of studying, and it worked for me. I know that it may not work for everyone, but like I said, you have to figure out a schedule that fits your life at the time so that you will actually stick with it.
    - Figure out what **time of day** you're going to study, and **which days** you're going to study.
      - For me, I studied from 8-10 PM on weekdays, and in the mornings on Saturdays.
    - Build in some **days off**. This also makes you more likely to stick with the plan, and prevents burnout. I took Sunday off each week. This also allows you flexibility if you ABSOLUTELY can't study one day, because you can move your off day around.
    - **Dedicate each day to a subject(s)** - this helped me a lot, and kept me fresh for each day. I had 6 divisions for 6 days, and would do them one day at a time.
      - I broke up my subjects into these groups:
        - Organic Chemistry
        - Physics and Math
        - Chemistry
        - Psychology and Sociology
        - Biology and Biochemistry

- Critical Analysis and Reasoning Skills (CARS)
- **.Focus on the areas of the MCAT that you struggle with**
  - Any information is useful information, but you have likely already learned much of the content that will be tested on the MCAT in your classes at S&T. If you begin studying for the day and realize that you've got a good grasp of the material already, then skip to the next section, or maybe just do the practice problems.
  - I bought some Princeton Review books second hand from a student that used them in the previous year. I went through the table of contents, and skimmed through each section to figure out which sections I actually needed to read, and which ones I could skim and do quickly.
  - For me, I had a very limited Psychology and Sociology background. Unfortunately, the book set I had also didn't have the psychology and sociology book present. I used Khan Academy, and made flashcards from those videos! It helped a lot. I think I spent more time with this information than anything else.
- **Take practice tests! As many as you can!**
  - This was incredibly helpful for my MCAT experience. The MCAT is sort of like a mental marathon, and nobody runs a marathon without training their endurance first. Not only will a practice test get you familiar with the online testing format, testing tools, and speed of the test, but it also improves your mental endurance. You'll feel sharper for longer after each try, and after all that studying of course! If you take Pre-Health Communications, Dr. Shannon will have one free test for you to take. You can also find ONE free test from Princeton Review and Kaplan each. Dedicate a few Saturdays and take them like a real test, with the correct time for breaks, and all in one sitting.
    - [Free MCAT Practice Test | Kaplan Test Prep \(kaptest.com\)](#)
    - [Free MCAT Practice Test Online | The Princeton Review](#)
    - DISCLAIMER: I can't prove this, but the free tests I took told me that I did quite a bit worse than what I got on the paid codes with Dr. Shannon, and the real MCAT. Anecdotally, I've talked to classmates that said they did worse on the practice tests than they did on the real thing. Don't let one bad score early in your prep get you down! (I think they do this to sell their test prep classes honestly)
- **Subject specific tips on studying**
  - **Math and physics** - Dr. Vojta knows that pre-med students need to have a good handle on physics for the MCAT, and she'll do what she can to help you if you ask! Use your old notes from Physics I and II to brush up on your skills, and it's helpful if you have an outside book with practice problems (Kaplan or Princeton Review). Memorize all of the equations! They don't give them to you on the test. This includes equations for kinematics, circuits, energy (work and heat), sum of forces and torque, and fluid dynamics/flow.
    - To memorize equations: Come up with a fun mnemonic for each equation that you'll need to use. Helps them stick better than purely rote memorization, especially when tensions are high during the test.
    - [MCAT Physics Equations Sheet \(mcat-prep.com\)](#)

- **Biology** - Your classes at Missouri S&T will help you prepare for this section pretty well. Cell Biology, Microbiology, Ecology, and Evolution were useful in my preparation. I looked through my reference books mostly for this. Remember the processes of DNA replication, transcription, and translation.
  - An amber codon is a stop codon.
- **Psychology and Sociology** - Khan Academy was an incredible resource for this section. They have an entire MCAT section, and there is behavioral psychology and sociology as part of it. It helps with the introduction of new terms and ideas, as well as memorizing the different models of development (Piaget vs. Erikson). Health Psychology was also helpful, and I'm sure that other psych classes at S&T would be great for preparation. I found that the questions for this section were ones that I either knew, or I didn't, because you have to know a lot of words (i.e. groupthink) and what they mean to answer the questions correctly. I found that making flashcards for these terms after watching the Khan Academy videos was incredibly useful as well.
- **Critical Analysis and Reasoning Skills** - This section includes some pretty tough passages that are hard to decode. With practice, it gets much easier. To study for this section, you don't need to learn any information, but you need to learn HOW to read the passages. There are some practice passages on Khan Academy, and in any book that you may purchase.
- **Biochemistry** - Amino Acid structures are huge for biochemistry. Memorize what the side chains look like, their polarity, acidity/basicity, and essential vs. non-essential. They love asking questions about them in my experience.
- **Organic Chemistry and Chemistry** - Know your rules for basicity (what makes something more or less basic), nucleophilic and electrophilic chemistry, as well as carbonyl chemistry. It is important to know the basics and have a strong foundation for most of those basic rules. Be familiar with the more complicated mechanisms (Grignard's, Aldol Condensation, Acetal/Hemiacetal chemistry) from Orgo II as well, as they can sometimes sneak in there. Look over the MCAT section on Khan Academy to see where you might have gaps in your Chemistry knowledge (or with a book/class).
- **Helpful strategies to use while taking the MCAT** - these are strategies that helped me. There are many people and many classes that will have a million other strategies. Sticking to the basics is a good thing when taking this test.
  - **Active reading** - the highlighter can be your best friend. Most of the test questions are passage based. Active reading can help you to remember what you read. Highlight things that are important for the main idea of the passage, and any words that stick out that you'll want to look back for. This is particularly useful with the CARS section, but do this with the passages in every section.
    - This was particularly helpful in the later sections of the test. Your mind can get fatigued after the first few sections, so highlighting helped to keep me focused.

- **Take your breaks** - this may seem obvious to some, but take your breaks! Walk around as well. A moving brain is a thinking brain. It helps to cut through some of that mental fatigue and keep you sharp for the next section.
- **CARS** - There are many proposed strategies for this section, and I'll briefly outline a couple!
  - **Skimming and sorting** - some people will recommend that you skim each passage quickly, and rank each as easy, doable, or super hard. You start with the easy passages, and work your way through to the doable passages. You leave the hard passages for last. The theory is that you'd miss more on those anyway, so why not dedicate your time to the manageable passages.
    - This always seemed like a waste of precious time to me, and I did not do this, but if it works for you that's great!
  - **Read the questions first, then the passage** - I did this for some of my passages (when I'd remember). Doing a quick review of all the questions for a passage helped me pick out things in the passage to pay attention to. There wasn't a huge benefit to it though, just something that was suggested.
  - **Main idea, supporting details, writer's voice** - These are things I would highlight while reading. Highlighting helps you to actively read!
    - **Main idea and supporting details** - there will usually be one or two sentences that serve as the thesis for the passage. Highlight them, and anything that supports that theme/idea.
    - **Writer's voice** - there will often be questions about what the author meant by saying "...." Highlight things that show you what the writer feels or thinks about the topic they're writing about. If they use negative words to describe something, then they likely feel negative about it (thanks Cpt. Obvious). Some of those things can slip through the cracks as you read though, so highlighting them is very helpful.
- **Resources**
  - **Khan Academy** - They have a dedicated MCAT course that covers most everything that you'll need to know, and it's FREE. They have practice questions for each section as well, and it's a motivating way to get through some material when you're tired of reading.
    - [\\* MCAT | Test prep | Khan Academy](#)
  - **Princeton Review and Kaplan** - these companies sell books, courses, flash cards, and practice tests for MCAT prep. These resources can be quite expensive, with an average cost of \$2,000+. The good thing with these courses is that they're convenient, as they do all of the study planning for you.
    - **IMPORTANT** - If you're looking to buy books or a course from Princeton Review, call Mid-MO AHEC to get their information on **discounts**. They give some great discounts on these materials that are worth looking into. The number is 573-364-4797. Their website is: [Mid-Missouri AHEC](#) –

[Improving Rural Healthcare \(midmoahec.org\)](http://midmoahec.org) which has other resources on it as well.

- **Class Notes** - like I said, the education at Missouri S&T will prepare you well. It wouldn't hurt to look over information that you have covered in the past, but it's hard to make this an organized process.
- **Physics Websites** - Professor Vojta posts a lot of the College Physics I and II homeworks and video explanations on her websites, which I have linked below. Helpful if you are stuck on a particular physics topic and want a reliable resource to look at!
  - [College Physics I \(mst.edu\)](http://mst.edu/physics/101)
  - [College Physics II \(mst.edu\)](http://mst.edu/physics/102)
- **Youtube** - in the same vein as Khan Academy, Youtube is a great free resource, and a good break from reading. Isolate some topics you want to better understand, and go over them in video format. This was useful for Organic Chemistry review.

## Secondary Applications

- Once you have met a school's minimum GPA, MCAT, and course prerequisites, they will usually send you an offer to complete a secondary application. This will be done over email (the one associated with your AMCAS), and can happen anywhere from late June to mid-August of the application cycle. There will be a much more detailed timeline of how the application progresses through the system later in this document. Secondary applications usually come with their own fee that is paid directly to the school that sent you the offer. They contain a set of open-ended essay questions that you can answer, which allow the admissions committee to get to know you better as an applicant.
- Below is a list of questions, organized by school, that were sent to me in my secondaries. COVID may become less of a factor in the coming years with these questions, but this list should give you a good idea of what they can ask. Some of the questions are fairly abstract ("What are you most proud of in your life?") and can be challenging to answer. Answer each question genuinely, and make each school feel special. Some schools will ask you why you *specifically* want to attend their university. Do your research on their school and the benefits of their program, and their mission statement. Work in all of those pieces to show that you're interested in them **SPECIFICALLY**. No generalities with those questions.
- Have your advisors, friends, coworkers, and family (whoever you can get) to read over your essays before you send them out. Spell check them diligently!
- **Save each essay that you write**, because some schools ask similar questions. This can save you time. Tweak them to match the similar prompts! Helpful if you have a lot of secondaries to fill out. I just did this on a Word document.
- **Make a spreadsheet to keep track of your secondaries from each school.**
  - This is very helpful with organization if you have applied to a lot of schools! I made a tab for each school, put my password and login for their website in that

tab, and color coded the tabs based on the status of my secondary application with them.

- Black - was NOT sent one (denied my application via email).
- Red - hadn't offered me one yet
- Orange - offered me, and I hadn't started yet
- Yellow - offered me, and I was working on it
- Green - submitted application and paid
- This organization style worked for me, but you can make your own! Just do something that helps you keep track of which schools have offered you a secondary so you don't forget to submit them!

**IMPORTANT: Submit your secondary applications no later than two weeks after you receive the email offer.**

This can be a tall order if you've applied to a lot of schools, but do your best to hit that two week margin. I've included all of the secondary questions I received, and this website has the rest! Pre-writing your essays based on these given prompts can be helpful if you've got a lot of secondaries to submit.

- [Medical School Secondary Essay Prompts \(Updated for 2022–2023 Cycle\) — Shemmassian Academic Consulting \(shemmassianconsulting.com\)](#)
- **UMKC**
  - Please describe how COVID-19 has impacted your pathway to becoming a Physician. The questions below will help you get started but do not limit your responses to these considerations:
  - If you are interested in rural healthcare or in practicing a specialty that meets the needs of underserved rural communities, please describe your interest in this aspect of healthcare.
  - How will your diversity/diverse experiences (e.g., gender, gender identity, race, ethnicity, sexual orientation, veteran status, from rural or underserved community, first generation student status) add to your career in medicine?
- **Mayo Clinic**
  - Why are you specifically interested in pursuing your medical education at Mayo Clinic Alix School of Medicine? Please tell us in a few sentences why you are interested in the top choice track you indicated.
  - We are all differentiated from or connected to one another by individual inflections that constitute our diversity. Explain how your relationship with your own diversity and to the diversities of others manifests in your personal and professional activities.
  - Share with us your thoughts about the relevance – or not – of diverse learning environments in which you wish to learn medicine.
- **Creighton**
  - Please state your reasons for applying to Creighton University School of Medicine.

- In Creighton's Jesuit, Catholic tradition, the mission of the School of Medicine is to improve the human condition with a diverse body of students, faculty and staff who provide excellence in educating students, physicians, and the public, advancing knowledge and providing comprehensive patient care. Please describe the role(s) you can play in helping the School of Medicine achieve its mission.
- How have your experiences with diverse populations prepared you for being a future physician?
- Describe how you have dealt with a personal challenge or major obstacle that you have overcome. Focus on what you learned about yourself and how it will help you during the challenges you might face in medical school.
- Describe how the COVID pandemic prepared you for medical school? Include in your answer how it impacted your decision to apply to medical school and what you learned about yourself from the pandemic.
- **Johns Hopkins**
  - Briefly describe your single, most rewarding experience. Feel free to refer to an experience previously described in your AMCAS application. (2500 ch.)
  - Are there any areas of medicine that are of particular interest to you? If so, please comment. (2500 ch.)
  - Briefly describe a situation where you had to overcome adversity; include lessons learned and how you think it will affect your career as a future physician. (2500 ch.)
  - Briefly describe a situation where you were not in the majority. What did you learn from the experience? (2500 ch.)
  - Wonder encapsulates a feeling of rapt attention ... it draws the observer in. Tell us about a time in recent years that you experienced wonder in your everyday life. Although experiences related to your clinical or research work may be the first to come to mind, we encourage you to think of an experience that is unrelated to medicine or science. What did you learn from that experience? (2500 ch.)
  - Optional: The Admissions Committee values hearing about each candidate for admission, including what qualities the candidate might bring to the School of Medicine if admitted. If you feel there is information not already addressed in the application that will enable the Committee to know more about you and this has influenced your desire to be a physician, feel free to write a brief statement in the space below. You may address any subject you wish, such as being a first generation college student, or being a part of a minority group (whether because of your sexual orientation, religion, economic status, gender identity, ethnicity) or being the child of undocumented immigrants or being undocumented yourself, etc. Please note that this question is optional and that you will not be penalized should you choose not to answer it. (2500 ch.)
- **Nebraska**
  - What is your personal rationale for applying to the UNMC College of Medicine, especially if you are not from Nebraska? (1000 ch.)

- What are you most proud of in your life? (1500 ch.)
- Tell us about a time when you have had to overcome adversity. (1500 ch.)
- What have been the positive impacts of the COVID-19 pandemic on your personal and professional life? (1000 ch)
- Given the potential impact on shadowing opportunities since 2020, how do you know that you want to be a physician and what the career entails? (1500 ch.)
- **University of Missouri**
  - Please describe any element within your candidacy not fully addressed on the AMCAS application that you want the Admissions Committee to consider. (1200 ch.)
  - Please let us know information regarding how you heard about our school, and any factors (programs, people, mission, geography etc.) that led you to apply. (1200 ch.)
  - Please discuss (e.g. using specific personal traits, education, life experiences, etc.)
    - 1) how you will add to the overall diversity of the medical school and the practice of medicine AND
    - 2) how you will contribute to an inclusive learning environment at the medical school and the practice of medicine. (2000 ch.)
- **Tennessee**
  - Any additional information not previously provided in the personal comments of your AMCAS primary application. Please limit your response to 500 characters.
  - Given the impact of the COVID-19 pandemic, we would like to provide our applicants with an optional essay prompt for the year's UTHSC College of Medicine secondary application. Please use the text field below to share with us how you may have been impacted by the COVID-19 pandemic, including academic, financial, medical disruptions, etc. It would also be helpful for us to know if any of your planned experiences in shadowing, volunteering, research, employment, or other activities have been suspended due to the pandemic. Please limit your response to 2,500 characters.
- **Kansas University Med (KU)**
  - Describe your health care experiences that involved direct exposure to physicians' clinical duties and how they have shaped your desire to apply to medical school.
  - Describe examples of leadership experience in which you have significantly influenced others, helped resolve disputes, or contributed to group efforts over time.
  - Beyond academics (grades and MCATs), describe the most significant challenge you have faced and the steps you have taken to address this challenge
  - Give an example of what you have done to make your community a better place to live.
  - Please tell us about your identity. How has your identity impacted the development of your values and attitudes toward others, particularly those with values different from your own? Please include how your values and attitudes will

foster a positive learning environment during your training, and benefit your future patients through the practice of medicine.

- If you are not a Kansas resident, what is your specific interest in applying to the University of Kansas School of Medicine?
- Please use this space to elaborate on any positive or negative impact from the COVID-19 pandemic you want us to be aware of when reviewing your application.

- **Colorado**
  - The pillars of our curriculum are Leadership, Curiosity, and Commitment. Tell us about how you have embodied one or more of these attributes in your path to medicine thus far. In which of these areas do you see the most opportunity for personal growth and why? Limit this response to 500 words.
- **Iowa**
  - Question 1: We understand you may be applying to multiple medical schools. Please explain your reasons for applying to the Carver College of Medicine.
  - Question 2: Describe any unique personal characteristics or obstacles you may have overcome that will influence your contribution to a diverse healthcare system.
- **University of Chicago**
  - Please specifically discuss how, if admitted to our program, your admission would contribute to the diversity of the Chicago Medical School at Rosalind Franklin University of Medicine and Science community.
  - What creative/innovative ways have you found to continue to build upon the competencies for entering medical students during the pandemic?
  - Briefly share your plans for the upcoming academic year? Do you plan to work, conduct research, volunteer in a health care setting, participate in community service, attend school, travel, participate in leisure activities or other activities.
  - Has persistence ever paid off for you? Describe the situation.

## Interviews

- Once you have submitted your primary application, received an offer to complete a secondary application, submitted that secondary application, and your application has been reviewed, you can be invited for an interview! This is when the admissions committee will decide to either not move forward with your application, or offer you a spot in one of their interview days. There are several types of interviews, and the preparation for each is a little bit different. Pre-Health Communications class covers all of this in detail! Below are some great resources to get you started with your preparation.
  - [Preparing for Medical School Interviews | Students & Residents \(aamc.org\)](#)
  - [Types of Medical School Interviews \(ingeniusprep.com\)](#)
- **Types of interviews, and how to prepare for them**
  - **Traditional** - This typically consists of one or two interviewers, each interviewing you for 30+ minutes. This is more like a traditional job interview, with an obvious

medical focus. This is the most common type of interview, and the one done at Mizzou!

- Utilize the COER office on campus at S&T. They are used to conducting practice job interviews, and you can request a medically focused practice interview. Any opportunity you have to practice in an interview setting is very valuable, and this experience will be beneficial! They'll also provide you feedback on your answers, mannerisms, eye contact, and anything else you may want to ask about. They won't ask you medically specific questions about health disparities, etc., so remember that it's not exactly the same.
- Review your application before your interview so you know what you said in those essays! You'll have to be ready to talk about anything you wrote.
- Practice with friends or family, and have them ask you some practice questions that can be found online. I found this to be very helpful!
  - [50 Common Medical School Interview Questions | The Princeton Review](#)
  - [300 Medical School Interview Questions & Answers | BeMo® \(bemoacademicconsulting.com\)](#)
    - Look at their professionally answered questions. Great examples! You won't have to be so eloquent on the spot in an interview, but it can give you a good idea of what to include/think about for your answers.
  - [21 Medical School Interview Questions and How to Answer Them | Med School Insiders](#)
- Prepare some questions to ask your interviewers about the school. Look up SPECIFIC program attributes or research opportunities, etc., and ask them about those. Another good question is "What do you see in a successful medical student at your university?"
- If the opportunity arises, you can also ask your interviewer about themselves. This turns the interview into more of an organic conversation. Pay attention to what their name is and what they do when they introduce themselves!
  - One of my interviewers was a physician, so in the "any questions for me?" section, I asked him about being a physician and advisor in that school's system and what he liked about it.
- **Multiple-Mini Interviews (MMI)** - This type of interview consists of 7-10 shorter interviews that usually take about 5 minutes. This is the type of interview done at UMKC! The questions in an MMI can often be ethically focused, and showing that you've thoroughly thought through your answer is the key to a successful interview.
  - In these interviews you will be given a prompt, time to review that prompt, and then you will be connected with an interviewer to give your answer. At UMKC, they gave you 2 minutes to review the prompt and 5 minutes to answer, and they had 10 rounds.

- These questions can be very difficult at times, intentionally including some morally difficult topics. Below is a paraphrased version of a question I got during one of my interviews.
  - “A 75 year old man agrees to have an elective surgery that would greatly improve his quality of life, and he dies during the surgery. The family is very upset. Explain your thoughts on how the surgeon would feel in this situation.”
  - I tried to explain how morally conflicted the surgeon would feel, and how I understood why the family would be upset. But then I explained the importance of maintaining a patient’s autonomy, and pointed out that he had given informed consent for the procedure (consent, being of sound mind, and understanding the risks).
- They’ll likely have follow up questions, so don’t ramble too much and think out what you’re going to say so that you can be concise.
- Practice with practice questions! Do this with roommates, family, or professors, and you can also utilize COER for professional interview feedback.
  - [MMI Questions: 300 MMI Interview Questions | BeMo® \(bemoacademicconsulting.com\)](http://bemoacademicconsulting.com)
- **Group Interviews** - This type of interview is exceedingly uncommon, and I haven’t ever spoken to someone that has experienced one. It is like the traditional style interview, but you’ll have several other candidates present with you during the interview. Prepare how you would for a traditional interview, as the questions will be similar.
- **Closed vs. Open Interviews**
  - **Closed** - a closed interview is one where the interviewer has NOT looked at your application already, and doesn’t know anything about you. This can be done to reduce bias in the interview process (Halo or Devil effect from psychology). It means that you likely won’t get questions about things that are specifically in your application, and a more general pattern of questioning.
  - **Open** - an open interview is one where the interviewer HAS read your application and knows what’s in it. This means that you can get more specific questions about things you’ve done or experienced, so you better know what you wrote! Hopefully you haven’t embellished or lied about your experiences, because in the heat of the moment it would be hard to keep your story straight.
- **Common Questions (things to prepare for)**
  - Why do you want to be a doctor?
    - The classic question. Most likely every interviewer will ask it.
      - A helpful way to organize your answer to this question is: what got you interested at first in medicine (personal values, interests, and experiences), what experiences confirmed that interest as you

developed professionally, and what do you want to do in medicine in the future (past, present, future organization).

- If you do not get into medical school this year, what will you do with your time? If you somehow never got into medical school, what career would you pursue instead?
  - This can show where your priorities lie. If you enjoy the patient side of medicine, you may say that you'd pursue nursing. If you like the academic side, you might get a research job, etc. Think about it before your interview with some good introspection.
- Why do you want to specifically be a doctor? Why not a nurse, therapist, PA, NP?
  - Great question to honestly think about. A lot of the motivations to be a doctor could match up with the motivations to pursue these other careers. Good to lean on the leadership aspect of being a doctor, as well as having the greatest capacity to help others (more power, more responsibility, will you like that?).
- What has been your most significant experience in your life for personal and professional development?
- Tell me about a time you had to face a challenge, and how you overcame it.
  - **Answer using the STAR method.**
    - **Situation** - lay out the situation, what was going on, what was the problem.
    - **Task** - what was your specific involvement in that situation, what was your plan to fix it?
    - **Action** - what did you actually do to solve the problem?
    - **Result** - how did your action affect the result in a positive way?
- **Medically specific questions** - Health Psychology is a great class to prepare for these questions.
  - Why do you think the incidence of fetal death at birth is much higher for African American patients than white patients?
  - What is the biggest problem that you see with our healthcare system today, and what are two ways that you'd change it?
  - Which country do you think has the best healthcare system in the world?
  - Why do you think there are still disparities across male and female health outcomes?

- **Mind Games**

- I can't prove this, but sometimes the interviewer's actions and interview formats can be structured in an uncomfortable way for the interviewee. The interviewer may not smile much, even though you're giving good answers, which can be off-putting. One interviewer might be really nice, and one might be kinda cold.
  - In Mizzou interviews, you have two interviewers, and one of them asks you a lot of softball questions. The other interviewer will ask you the tough ones and doesn't smile much. This might be coincidental, but in my experience, and other students' experiences, it's held true.

- Don't be rattled by these things if they do happen. It's okay! Keep up the confidence, even though it's hard!

## Application Timeline, and Each Step That Your Application Goes Through

This is specific for the UMKC process, but is likely similar elsewhere. This process was explained to me by the head of admissions at UMKC.

1. **Submitting your primary application** - this is through AMCAS. You fill out the application once, and send it to the schools that you're applying to. Once your application has been reviewed by AMCAS and everything checks out (takes about 2 weeks) AMCAS will send it to the schools.
2. **Secondary application offers are sent out** - this usually happens in late June to early August. The schools make sure you've taken the proper pre-requisites, and have met the minimum MCAT and GPA requirements. They'll send you an email with a link to their secondary application portal. They'll either give you a username and password, or you'll make one. The username is usually the AAMC number you're given when you make an account with them.
3. **Submit your secondary application (no less than two weeks after they offer you the chance to fill one out)** - this usually involves a fee. You'll write your essays, input them, submit them, and pay. Once your secondary application is submitted, the admissions committee can start the pre-screening process.
4. **Pre-screening** - applications are divided into cognitive and non-cognitive sections. The cognitive section includes your GPA and MCAT score (metrics). The non-cognitive sections include everything else, including your personal statement, work and volunteer experiences, and secondary application essays. Each division is scored and ranked. At this point, the applications in the lowest ranks are no longer considered, or looked at further.
5. **Screening** - after pre-screening and preliminary scoring/ranking, your application is seen by two members of the counsel on selection. They go through everything in your application in detail. At this point, these two members make interview recommendations.
6. **Interview Recommendations** - Two members of the counsel on selection will give you a "yes," "maybe," or "no" vote for interview recommendations. Two "yes" votes is ideal. Based on these votes and the ranking of your application, you can be invited to an interview. For most medical schools, interview notifications and offers can happen from later September to February of the next year. Invitations or denials are sent via email.
7. **Interview** - if invited, you'll be able to choose from a handful of dates that they provide. Confirm that you'd like to accept the interview, and schedule your date! Dress code is usually professional dress, and you'll want to practice leading up to it. Each interviewer can score your interview and make notes for the counsel on selection to read.
8. **Final Decisions** - your application is now out of your hands. The counsel on selection will review your application one more time, including your interview scores this time! This is when the final ranking of applicants is made. There are three possibilities at this point.

You can be denied admission, put on the waitlist, or accepted! If you are put on the waitlist and other students do not accept their offer of admission, you can be sent an offer of admission later. This is possible! This was my experience. It can also not happen unfortunately, so try to temper your expectations. Your ranking is based on a voting procedure by the 10 folks on the counsel of selection, either a yes or no for admittance.

9. **If admitted, pre-matriculation checklist** - once admitted, there's some pre-matriculation things to get done, which is essentially just onboarding and orientation for the school.

## After Matriculation (What's It Actually Like?)

- At the time of writing this, I've gone through 5 months of some pretty intense medical school education. This section is meant to give you an idea of what it's like, and what to expect. My experience is specific to UMKC's curriculum, and each program is different.
- **Workload** - you may have heard that having a job in medical school is very easy to manage. This is true. The time that your medical curriculum requires is pretty extensive, and I know that you want to be a great doctor, so studying takes up most of your day each day! The old trope is that the first years of medical school, the book learning portion, are like "drinking out of a fire house" because the quantity of information is pretty intense! Here is a breakdown of my school related hours each week:
  - **20-25 hours/week in class.** 4-5 hours per day on average sitting in lecture!
  - **25 hours/week studying (outside of class).** I study for an average of 4 hours/day outside of class. On the weekends, it's usually around 5 hours on each day, so it can be 30 hours/week sometimes. Our tests are usually on a Monday, so on the weekend before a test, we study for an average of 8 hours per day, sometimes more.
  - **60 hour work week** - This is what you should be prepared for. It's often not the full 60 hours, but this is what the school has deemed an acceptable work load for graduate students. It usually shakes out to be 10 hours per day during the week, and 5 hours per day on the weekends.
  - **Why does it take so much time to study?**
    - My study strategy is to review all of the information we learn each day outside of class, which basically means that I go through the lecture slides again and make flashcards for them. Takes me about as long to go through the slides and make cards as it did for the lecturer to get through the info. This means that with 4 hours of lecture/day, I review that info for an additional 4 hours outside of class. You have to spend time with the information to learn it, you absolutely just can't cram study for this much info, and you want it to stick!
  - It equates to a ~22 hour semester in college. It's busy!
  - In your later years, after the classroom portion, you'll have to work (learning) quite a bit in the hospital, and I think the 60 hour timeframe still holds true.
- **First two years are in the classroom** - these first two years are packed with learning the anatomy, biochemistry, physiology, histology, and embryology of each system in the

body (in a system's based curriculum). This hits heavily and is a very busy time! Your education at S&T will prepare you well for it, but you'll study much more in medical school than you did in college. It's a full time job, as I've expounded on above. This portion of your curriculum is to prepare you for Step I of the USMLE Board Exams, which you take in the beginning of your third year of school. This exam is newly pass/fail, so you just have to pass it! Step II of those exams is scored and not pass fail, but that comes later.

- **Last two years are clinical** - In your last two years you'll go through your **core clerkships** which include, pediatrics, internal/family medicine, emergency medicine, psychiatry, and surgery. I don't know much about this portion of school, as I haven't done it! You aren't in the classroom for these clerkships, and you work with an "attending physician" that will teach you about the specialty and common pathologies that are involved in it. You'll take "shelf exams" that will test your knowledge on these pathologies and how to treat them.
- **Residency** - This is your post-medical school training, and it takes anywhere from 1-7 years. This is when you specialize. You will apply for residencies late in your medical school career, usually in the summer after your third year or the fall of your fourth year. With surgical specialties, you can expect at least 4 years of residency (7 years for neuro, 5 for ortho and general). With family medicine, you'll have 1-2 years of residency before you can practice on your own.
- **Fellowship** - this is a one or two year process that comes AFTER your residency. It is optional, and allows you to specialize within your specialty. In orthopedics, you can do a fellowship and specialize in knee surgeries, etc. These are optional.

## Applying to DO Schools

- The process for applying to DO schools is similar to the MD process, but you'll use a different application service called the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS).
- **The application submission opens in EARLY MAY.** Earlier than the AMCAS application. You still want to submit your application soon after the application submission opens.
- I've included some helpful sites from the AACOM below! The application process is similar, and they have **fee assistance** as well.
  - [Admissions Requirements | AACOM](#)
  - [Application Instructions | AACOM](#)
  - [Explorer - Lead Form | AACOM](#)
  - [AACOMAS Application Fee Waiver | AACOM](#)

## Applying to Schools in Texas

- **Texas Medical and Dental Schools Application Services (TMDSAS)**

- This is the application service that you'll have to use if you want to apply to any medical school in Texas. The deadlines are different, and you'll have to fill out the application separately from the AMCAS application.
- The application opens on May 2nd, and the application submission opens on **May 16th**, earlier than AMCAS!
- [Medical \(tmudsas.com\)](http://tmudsas.com)

## Gap Year Options

If you take a voluntary or involuntary gap year, it is important to be proactive with the time that you have. This “time-off” should not be regarded as such. It’s crunch time! Time to build your resume up as much as you can, and become even more impressive than you already are. You will have to discuss this time in your medical school interviews and its important to have something significant to talk about.

- **Employment** - all of the employment options we talked about above are great options, including PCA, CNA, EMT, medical scribe, and medical assistant work. You can also work in private clinics where you'll develop your history taking skills.
- **Research** - this is a great option for your gap year, and it can be an employed position as well. You can gain research experience as a lab technician, and I know that Mizzou often has these jobs posted to LinkedIn and elsewhere for their medically related labs. Admissions committees love research, and particularly research that you've played a significant role in. You should be able to talk about your research and the science behind it at length in interviews, they love it!
- **Post-Baccalaureate Programs** - these programs are for students that would like to improve their GPA with additional coursework. They are often expensive and intense, but they may be worth looking into if your GPA is a major weakness in your application.
- **Medical Mission Trip** - these are extended trips that last anywhere from a few weeks to three months. They can be a great international and multicultural experience, which are valuable to admissions committees. Trips like these can build up your cultural competence, and it's something that you can talk about for the secondary applications that talk about the importance of diversity!
- **Volunteering** - medical or non-medical! Sacrifice and working hard for the wellbeing of others is the calling card of the medical profession, so volunteering can help you show that you're ready for that challenge. More hours are more better.
- **Retaking your MCAT** - this can seem like a daunting task, but it may be worth a shot if your MCAT is a major limiting factor in your application. If you hadn't the first time, you may look into a more structured course/form of studying. Figure out what was a productive use of your study time in the first go round, and what could be improved. Did you stick to your plan the first time? What will make you more likely to study well this time?
- **Shadowing** - investigation of the profession is very important! Look for unique shadowing opportunities in different specialties.

- This is a great website to start looking at your options for a gap year. It talks about options, and what you should say in interviews about your time out of school. (i.e. never say “time off”).
  - [Making the Most of Your Gap Year | Students & Residents \(aamc.org\)](https://www.aamc.org/students-residents/making-most-your-gap-year)

## Early Admissions Programs

As the name suggests, you can apply to early admissions programs much earlier than the summer of your junior year of college. I have not included the 6 year medical programs at Missouri Southern and UMKC, because you apply to those out of high school. Look at other schools you're interested in as well, and see if they have a pre-admissions program!

- **Bryant Scholars (Mizzou)**
  - The Bryant Scholars program is an early admissions program with a rural focus from the University of Missouri. Your area code must be considered “rural” to apply for this program, and you must be a Missouri resident.. All of the prerequisites for eligibility to apply are listed on the site below. You can apply for this program in the **summer after your sophomore year of college**. This year, applications were due on June 23rd. Interviews are going to happen on August 10th or 11th.
    - [Application Requirements and Process - MU School of Medicine \(missouri.edu\)](https://missouri.edu/medicine/apply/process)
    - I was interviewed for this program, and it's just like a traditional medical school interview. It comes with a lot of strings attached, and requires an interest in working rurally upon completion of the program. There's just some extra things you have to do while in medical school if you're accepted this way, but it seems great!
    - You do NOT have to take the MCAT before applying to this program, but you have to get a minimum score of 505 (I think this changes year to year) when you do take it to stay in the program.
- **Medical Scholars Program (UMKC)**
  - This is UMKC's version of a pre-admissions program. It is only possible to apply for this program if you attend one of UMKC's partner colleges, and S&T is one of those! This will guarantee you a seat in the MD-only track at UMKC upon your graduation from S&T.
  - Applications become available **on May 1st, and they're due on August 1st of each year**. This can be done in the summer after your Sophomore or Junior year I believe. UMKC's curriculum **starts in JANUARY**.

## Mizzou MedPrep and Rural Immersion Program

- The University of Missouri offers some great extracurricular programs that can help you get prepared for medical school, and they could be some good experiences to add to your application.

- **MedPrep I, II, and III** - these are workshops that require an application and cost some money. You don't need to do all three, and you can apply to them individually. They'll work with you on personal statement writing, writing for your activities and experiences section, and the interview process. It's also a good way to get your name in the mix at Mizzou if you really want to go there! Having some name recognition is always a good thing, as it helps you stand out among other applicants. Each course, (I, II, and III) covers a different topic! The website is linked below, where a full explanation of each course and when to apply is available.
  - [Mizzou MedPrep and Explorations - MU School of Medicine \(missouri.edu\)](https://medicine.missouri.edu/medprep-and-explorations)
- **Rural Immersion Program** - this is a program that is intended to show aspiring and current health profession students (nursing, social work, pharmacy, PA, and medicine) what living and working in a rural town is like. They pay YOU to spend a week in a rural town and tour the industry and hospitals with other health professions students. I did this, and it was a great experience. If you have no interest in practicing rurally, then you don't have to apply for it.
  - For information and the link to apply, contact the MAHEC office in Rolla and ask about the Rural Immersion Program.

## MD-PhD Applications

- If you have a passion for research and would like to work as a faculty member in academic medicine someday, the MD-PhD route may be for you! It requires that you get your PhD first with the school you've been accepted to, and then go on to do your four years of medical school. You can receive tuition scholarships and stipends (getting paid to study), which makes it an attractive option to some! About 1 in 3 students that applies for an MD-PhD program matriculates, compared with ~ 40% matriculation rate for MD programs.
- I have limited experience with this tract! The AAMC is a great resource as always. Good luck!
- [MD-PhD Dual Degree Training | Students & Residents \(aamc.org\)](https://www.aamc.org/advocacy-and-policy/advocacy/advocacy-topics/medical-education/medical-phd-dual-degree-training)
- [download \(aamc.org\) \(Applying to become an MD-PhD\)](https://www.aamc.org/advocacy-and-policy/advocacy/advocacy-topics/medical-education/medical-phd-dual-degree-training)

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To anyone that made it this far, good luck, and don't give up!