Health Professions: Frequently Asked Questions

The following information includes a relatively comprehensive set of questions frequently asked of the Office of Academic Advising regarding various health professions. An attempt was made to group the questions into categories:

UNDERGRADUATE CURRICULUM

Question: Is there a pre-medical major at Rice?

No. Candidates for medical, dental and veterinary schools (as well as other Allied Health graduate programs) can pursue any major while taking elective courses that meet the prerequisites for medical school. Rice encourages students to pursue whatever major area of study is of most interest to them. The Office of Academic Advising (OAA) helps direct students in their course selections and identification of appropriate activities to ensure preparedness for post graduate health-related programs. Additionally, students interested in health professions support one another through the Rice Pre-Medical Society (RPMS) which hosts special events and guest speakers on medical topics, and a number of community service and non-profit organizations.

Question: What are the medical school course requirements?

With few exceptions, most medical schools require completion of the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>1 year (can include HUMA 101 or 102 or COMM 103, an FWIS course) = 6 credits</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3-4 credits</td>
</tr>
<tr>
<td>Chemistry</td>
<td>6 credits lecture + 2 credit hours lab = 8 credit hours</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>6 credit hours lecture + 2 credit hours lab = 8 credits</td>
</tr>
<tr>
<td>Physics</td>
<td>6 credits + 2 credits hours lab = 8 credits</td>
</tr>
<tr>
<td>Biology</td>
<td>6 credits lecture + 2 credits hours lab = 8 credits</td>
</tr>
</tbody>
</table>

Other notes:
- The Texas System requires two additional courses of upper-level biology, which can include one semester of biochemistry (See question on recommended courses below).
- Though many medical schools will accept Advanced Placement credit that was transferred to your undergraduate transcript, there are those schools that will not; double check the requirements for each school of interest (see question on A.P. below).
- Each school may require something different from the above. You should check with each school catalog for institution-specific requirements or the Medical School Admissions Requirement (MSAR) book available online at https://www.aamc.org/students/applying/requirements/msar/.
- On a national level, medical school requirements are under review; also make certain to review the individual requirements specific to each school for those in which you are most interested...they may be slightly different.
**Question:** Can I take prerequisites over the summer at Rice or another school?

Yes. It is possible to take prerequisites over the summer as long as they are taken at a reputable four year institution. Keep in mind, it is not recommended that you take too many of the prerequisites at a different institution and during the summer months. Summer courses often squeeze a semester of work into five weeks. Such a short time does not always foster the level of mastery you should achieve in the course. Additionally, much of the content taught in prerequisite courses is tested on the Medical College Admission Test (MCAT) or Dental Admission Test (DAT), or other tests, so mastery, over the long term, is essential to you performing well in upper level course work and entrance exams. Students who take a course during the summer and at another institution should complete the Undergraduate Transfer Credit Request Form and secure approval from the appropriate transfer credit advisor, prior to enrollment in that course if the student needs degree credit and/or major requirements at Rice. Courses transferred to Rice will not be calculated into your Rice grade point average. However, the medical schools will use these course grades when calculating your overall GPA.

**Question:** Is it necessary to major in a science discipline in order to apply to medical school?

It is definitely not necessary to select a basic science major when pursuing medical school. Selecting a non-science major will not diminish your ability to gain admission to medical school. The Association of American Medical Colleges (AAMC) states the following concerning choice of undergraduate major/courses:

“Medical schools recognize the importance of a strong foundation in the natural sciences—biology, chemistry, physics, and mathematics—and most schools have established minimum course requirements for admission. These courses usually represent about one-third of the credit hours needed for graduation. This approach deliberately leaves room for applicants from a broad spectrum of college majors, including those in the humanities and social sciences. No medical school requires a specific major of its applicants or matriculants. Admission committee members are aware that medical students can develop the essential skills of acquiring, synthesizing, applying and communicating information through a wide variety of academic disciplines. Nevertheless, many premedical students choose to major in a scientific discipline. Ideally, they do so because they are fascinated by science and perceive that such a major can be the foundation for a variety of career options. Choosing science primarily to enhance one’s chances for admission to medical school is not in a student’s long-term best interest. Medical school admission committees seek students whose intellectual curiosity leads them to a variety of disciplines and whose intellectual maturity assures that their efforts are persistent and disciplined. In fact, practicing physicians often recommend that, during their college years, premedical students take advantage of what might be their last opportunity for the study of non-science areas (music, art, history, and literature) that might become avocational interests later in life.”

Also note that according to the AAMC – FACT website, humanities majors statistically tend to score above average, showing that what you major in does not matter. As long as pre-med requirements are fulfilled, a pre-medical student can major in any discipline of interest. Additionally, if majoring in a non-science discipline, it is recommended that at least two more advanced biology courses are taken beyond the medical school requirements.
**Question:** Should I use Advanced Placement (AP) credits to fill my premedical requirements?

This is a question that must be answered on a case by case basis. Only a student can know if they have really mastered AND retained the information learned in an advanced placement course. In general, Advanced Placement Credit will satisfy some premedical requirements for many, but not all medical schools. However, there are several precautions:

- Not all medical, dental, and veterinary schools accept AP credit. Students need to check catalogs or web pages to determine each school’s AP policies or can view the OAA website document titled [Advanced Placement Acceptance by Medical Schools](#).
- If a student chooses to rely on a large number of AP credits to satisfy premedical requirements, it leaves little for an admissions committee to make an assessment.
- There is no AP credit granted for General Biology Laboratory. Students need to complete at least 2 credit hours of Biology lab during their undergraduate tenure.
- If a student satisfies the general biology and general chemistry requirements with AP credits, they should also complete at least 2 semesters of upper level course work in each discipline. There are several reasons for this:
  - To satisfy the requirement at those schools that do not accept AP credit in those disciplines
  - To reinforce what was learned in the general level courses
  - To establish capability of performing well at the college level in each discipline
  - To confirm mastery of the foundational material presented in each of the general courses for which the students has AP credit

**Question:** What if I’m not doing well in one of my prerequisites?

There are many reasons why students do not perform at their best, but there are tremendous resources at Rice to help. However, it is the student’s responsibility to take initiative when they are struggling in a course, and their greatest mistake is to wait too long before seeking academic assistance. Students should see an advisor and discuss options at the first sign of struggling with understanding concepts or performing less than ideal in a course. For more information, view the Academic Assistance tab on the Office of Academic Advising home page.

**Question:** Is it discouraged to take a class using the grade mode pass/fail?

Yes. Many medical schools will not consider any pass/fail courses as fulfilling premedical requirements. Even in cases where it is not absolutely prohibited, it is inadvisable to take pre-medical requirements pass/fail. A "D" counts as a "Pass" in a pass/fail course, and a "D" is probably what skeptical admissions committee members will assume was earned in the course. Courses that are not pre-medical requirements can be taken pass/fail, but those should be kept to a minimum.

**OTHER OPPORTUNITIES**

**Question:** In addition to taking the courses required for admission to medical school, what should I be doing during semesters and during summer breaks?

Extracurricular activities are an important part of a medical school application. Some good examples include health-related activities, especially clinical experiences, volunteer opportunities, independent research, travel, study abroad and jobs in the Texas Medical Center. Whatever endeavors are chosen, it’s important to commit to it for a period of time to demonstrate commitment and a sustained effort. It can
also be quite helpful to seek out leadership positions. For summer opportunities, see the link under the Experience Opportunities and Scholarships page on the Office of Academic Advising website (www.rice.edu/advising). For volunteer opportunities students should explore the Rice University Community Involvement Center:

http://www.ruf.rice.edu/~service/programs/asb/oldasb/asb03/mex_03_app.htm

**Question: How do I obtain research experience?**

The easiest way to obtain research experience is to contact a Rice professor about volunteering in their lab or working there for course credit. Most professors have a website listing their current research. Ideally, a student should pick a lab that peaks their interest. If planning on conducting research for course credit, see the BIOC 310 website www.bioc.rice.edu/bios310. Also explore the Office of Fellowships and Undergraduate Research website for research opportunities:

http://cohesiondev.rice.edu/administration/undergradresearch_dev/index.cfm

Research experience can also be obtained at the Medical Center. Read about faculty research interests at Baylor and M.D. Anderson and e-mail faculty members directly, including a resume and a request to meet and discuss their research.

**Question: When is a good time to start gaining clinical experience?**

It’s never too early to start gaining clinical experience. Clinical experience is absolutely necessary for students to learn about medicine and to show commitment to medicine as a career. Direct interaction with patients and medical personnel through work or volunteering in a hospital is preferable to simply observing clinicians as they work, but shadowing is also very helpful, and it is never too early to start. Shadowing demonstrates that the student has taken the initiative to gain first-hand experience in the field. To get the best insight, the student should shadow doctors in a variety of fields and settings. Even students with strong grades and recommendations are sometimes not admitted to medical school if they have had no contact with doctors and hospitals in the two or three year period before applying.

**Question: Are emergency medical services at Rice sufficient for gaining clinical experience?**

Emergency Medical Technicians (EMT) and Emergency Medical Services (EMS):

It is natural for pre-medical students to be interested in participating in organizations related to emergency medicine and possibly becoming certified as an EMT. However, many medical schools seem to want applicants to have had contact specifically with doctors and hospitals. Emergency medical services are great supplements, but not substitutes for, contact with doctors and hospitals, at least in the eyes of some admissions committees.

**Question: Can I still study abroad? Is it okay to take prerequisites at an international institution?**

Absolutely, with careful academic planning, pre-med students can still study abroad. Students who major in science or engineering can also study abroad and successfully apply to medical school. However, having AP credit or majoring in a non-science field usually gives students more flexibility to study abroad. In most instances this type of experience will enhance your resume and will not detract from a student’s major focus. However, it is NOT recommended that students take pre-med requirements abroad. Many medical schools will not accept credits from international institutions. It is also difficult to find courses at foreign universities that fulfill exact science requirements for U.S. medical schools, and medical school admission committees usually want to see the 8 minimum premedical lab science requirements on a transcript from a U.S. college or university.
ADVISING MEETINGS

**Question:** When should I meet with the OAA for Health Professions Advising?

Health professions advising at Rice is handled by an entire community of advising. During O-Week, new students are introduced to Divisional Advisors (faculty advisors), Peer Academic Advisors (PAAs), student O-Week advisors and co-advisors, and faculty major advisors from academic departments. Each has significant training and/or resources provided by the Office of Academic Advising regarding health professions. Most student questions can be answered accurately and efficiently by asking any member of this large community, most of whom are readily available in the residential colleges. However, if students need additional assistance regarding health professions, they should call 713-348-4060 to set an appointment with one of five Official Health Professions Advisors (OHPAs) registered with the Association of American Medical Colleges (AAMC). While most students may be interested in medicine, information is also available about related fields, such as dentistry, veterinary medicine, pharmacy, optometry, podiatry, public health, physical therapy and other allied health programs. The Office of Academic Advising provides a comprehensive list of related online resources via their website at [www.rice.edu/advising](http://www.rice.edu/advising).

Also, the OAA hosts a Health Professions Advising Orientation in early fall as well as Freshman Sessions and Sophomore Sessions throughout the academic year. For students planning on applying in the current application cycle, the OAA hosts Junior Open-File Sessions. Please see the OAA website at [www.rice.edu](http://www.rice.edu) for details.

HEALTH PROFESSIONS OPTIONS

**Question:** What is the difference between a Doctor of Osteopathic Medicine (DO) and a Medical Doctor (MD)?

The main difference is that doctors of osteopathic medicine complete extra training in the musculoskeletal system. Additionally, while the Association of American Medical Colleges (AAMC) accredits the 130 U.S. medical schools that award the M.D. degree, the American Osteopathic Association’s (AOA) Commission on Osteopathic College Accreditation (COCA) accredits the 25 colleges that award the D.O. degree. The following link provides more information about the American Osteopathic Association: [http://www.osteopathic.org/](http://www.osteopathic.org/). The following link provides information about the American Association of Colleges of Osteopathic Medicine: [http://www.aacom.org](http://www.aacom.org).

**Question:** What is a D.P.M.?

A D.P.M. is a Doctor of Podiatric Medicine or podiatrist. There are less than a dozen colleges of podiatric medicine in the United States and all are governed by the American Association of Colleges of Podiatric Medicine (AACPM). The following link provides more information: [http://www.aacpm.org](http://www.aacpm.org).
**Question:** What are combined degree programs?

Combined degree programs include:
- MD/JD: combined degree in medicine and law
- MD/MBA: combined degree in medicine and business
- MD/MPH: combined degree in medicine and public health
- MD/PhD: combined degree in medicine and research
- MD/DDS: combined degree in medicine and oral & maxillofacial surgery

To find what programs are available at a particular medical school, search the Curriculum Directory on the AAMC website: [http://services.aamc.org/currdir/index.cfm](http://services.aamc.org/currdir/index.cfm).

**Question:** What are other health profession options?

Some of the more popular health professions include (allied health sciences), but are not limited to: dentistry, veterinary school, nursing, pharmacy, optometry, the therapies (physical therapy, occupational therapy, speech therapy) and neuroscience. See [www.explorehealthcareers.org](http://www.explorehealthcareers.org) for more information.

**Question:** What are good sources for investigating my options and choosing schools to apply to?

The AAMC website is a good source of information on various schools: [www.aamc.org](http://www.aamc.org). Additionally, the Medical School Admission Requirements (MSAR) is an AAMC publication that offers a wealth of information to help make the decision. The Office of Academic Advising keeps copies for your review or the publication can be purchased on the AAMC website.

**Question:** Where can I find a list of medical schools?

A list of medical schools can be found at [http://services.aamc.org/memberlistings/index.cfm](http://services.aamc.org/memberlistings/index.cfm)

**MEDICAL COLLEGE ADMISSION TEST (MCAT)**

**Question:** When should I take the MCAT?

Students should consider taking the MCAT soon after completing premedical requirements. Most Rice students prepare and study during the summer following the sophomore year for the June, July, August, or September MCAT administration dates. The MCAT is now exclusively administered as a computer-based examination. With the advent of this administration, there are now more than 20 test dates in a calendar year. For most medical schools, the final opportunity to take the MCAT (if a student wants to attend medical school immediately after graduating from Rice) is September following the junior year. However, May, June, or July test dates are recommended. More information on the MCAT can be found on the MCAT website: [http://www.aamc.org/students/mcat/start.htm](http://www.aamc.org/students/mcat/start.htm).

**Question:** How can I register for the MCAT?

Information on how to register and online registration is found at: [http://www.aamc.org/students/mcat/reserving/start.htm](http://www.aamc.org/students/mcat/reserving/start.htm).
**Question: What are the advantages and disadvantages to taking the MCAT more than once?**

Ideally, students score their greatest possible score the first time they take the test. Therefore, students should prepare thoroughly for the exam. However, it is not uncommon or detrimental to take the test a second time. Taking the MCAT a second time allows for targeted preparation based on identified weaknesses from the first exam and increases the likelihood of improving a score. However, preparation is absolutely critical if taking the exam a second time. Clearly, performing worse the second time around is not looked upon favorably.

**Question: How do I study for the MCAT?**

Studying for the MCAT depends on your particular study habits. If a student is self-disciplined, they can begin studying on their own by reviewing Biology, Chemistry, Physics, and Organic Chemistry, or by purchasing one of the study books released by the commercial sources (e.g. Princeton, Examkrackers, Kaplan). To prepare for the writing section, students should keep up with current events, practice writing, and read more frequently. If a student does not typically read passages on-line, they should start doing so to train for the format of passages that appear on the exam. If a student will be more motivated taking a course, there are a variety of commercialized courses available throughout the year. In addition, the AAMC just recently published The Official Guide to the MCAT Exam, which can be purchased through their website. The AAMC also includes study tips on their website: [https://www.aamc.org/students/applying/mcat/preparing/85558/study_plan.html](https://www.aamc.org/students/applying/mcat/preparing/85558/study_plan.html).

**Question: What is the average MCAT score?**

The national average of scores for applicants and matriculants to medical schools can be found at the following: [https://www.aamc.org/students/applying/mcat/admissionsadvisors/mcat_stats/](https://www.aamc.org/students/applying/mcat/admissionsadvisors/mcat_stats/). Available on the AAMC website is also a grid that shows acceptance rates based on GPA and MCAT score (see page 11): [https://www.aamc.org/students/download/267622/data/mcatstudentselectionguide.pdf](https://www.aamc.org/students/download/267622/data/mcatstudentselectionguide.pdf).

Rice student averages are as follows:

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Mean Grade Point Average</th>
<th>Rice Mean MCAT Score</th>
<th>National Mean MCAT Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>3.675</td>
<td>31</td>
<td>28</td>
</tr>
<tr>
<td>2008</td>
<td>3.670</td>
<td>33</td>
<td>28</td>
</tr>
<tr>
<td>2009</td>
<td>3.697</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>2010</td>
<td>3.710</td>
<td>33</td>
<td>28</td>
</tr>
<tr>
<td>2011</td>
<td>3.706</td>
<td>33</td>
<td>28</td>
</tr>
</tbody>
</table>
**Question:** What does “competitive score” mean?

For admission to medical school, students must have strong grades and MCAT scores, but there is no clear boundary. Strong grades are simply a statement of scholastic achievement. As a general rule, a cumulative grade point average of 3.3 (B+) and an MCAT score of 28 would be the minimum. A student’s science grade point average is also very important. Students should strive for a cumulative grade point average above 3.5, a science grade point average above 3.5 and an MCAT score above 30. The average MCAT of Rice students has been consistently above the national mean. Also remember that the greater the competition to a particular school, the stronger a student’s grades and MCAT score must be to be a competitive applicant. 42,742 people applied for medical school in 2010. Of these applicants, 18,665 were accepted and matriculated into a medical school (43.7% acceptance rate). For the matriculating year of 2011, medical school applicants from Rice had an 89% acceptance rate, with an 88.3% acceptance rate averaged over the past ten years.

However, acceptance to medical school is not based on numbers alone. It is also based on overall evaluation that includes grades, standardized test scores, recommendations, extracurricular involvements, relevant health care experiences, state of residency, motivation, and the impression of the candidate by an admissions committee during an interview.

**Question:** When do I officially start the process of applying to medical school?

At Rice, the process unofficially begins when a student opens a file with the Office of Academic Advising during the fall of junior year. However, the process officially begins when a student starts to complete the web-based common applications to professional schools at the beginning of their summer after junior year via the American Medical Colleges Common Application Service (AMCAS) and the Texas Medical and Dental Schools Application Service (TMDSAS).

**ADMISSIONS**

**Question:** What is the timeline for admissions?

As mentioned in the previous question, the application process begins with opening a file during the fall semester of your junior year (or the fall semester preceding your final year at Rice). Around this time, letters of recommendation should be requested for receipt by the Office of Academic Advising by June 1. Personal statements and resumes should be submitted by January 31, and an appointment for an exit interview should be made before May 1. By early to mid summer, web-based common applications should be completed.

**Question:** What are the differences between AMCAS and TMDSAS?

AMCAS is the abbreviation for American Medical College Application Service, while TMDSAS represents the Texas Medical and Dental Schools Application Service. The most obvious difference is that TMDSAS applies only to Texas state medical schools (i.e. all schools except Baylor College of Medicine which is private). TMDAS also accepts application submissions starting at the beginning of May as compared to the beginning of June for AMCAS. Additionally, the TMDAS personal statement is allows slightly fewer characters than AMCAS. TMDAS also has two sections in which students identify extracurricular activities and experiences and a “Special Experiences” section for any extra information not previously mentioned.
**Question: What is a personal statement?**

The personal statement is the medical school application essay. The AMCAS prompt is: “Explain why you want to go to medical school.” Each applicant is given approximately 900 words to provide an answer to admissions committee members. Ultimately, the personal statement should convey the student’s passion and 100% commitment to becoming a physician. This assertion should be backed up with clinical and research experiences acquired during their undergraduate career. There is additional information about how to write a personal statement on the OAA website: [www.rice.edu/advising](http://www.rice.edu/advising).

**Question: How do I request letters of recommendation from professors?**

When a student opens a file with the OAA, waivers are provided for students to provide to their letter writers. Letters should be requested from at least two science professors (Biology, Chemistry, Math, Computer Science, Physics, or Neuroscience), a non-science professor, and/or a mentor/advisor. To request a letter of recommendation from a professor, a student should schedule an appointment to ask the professor if he/she is willing to write a letter. If the professor agrees to write the letter, the student should provide a resume, unofficial transcript, personal statement, waiver, and envelope, all in a folder marked “Letter of Recommendation”. Students should touch base with the professor approximately every month afterwards to ensure they submit the letter on time. After the letter is completed, students should send a thank you note and update the letter-writer on their application status. After all letters are received by the OAA, the Health Professions Advising Committee will write the committee letter based on the individual recommendation letters, personal statement, resume, and exit interview.

**Question: What are the qualities considered in my application to medical school?**

Considerations for admission to medical school include, but are not limited to:

- Academic performance in all college coursework
- Academic performance in pre-medical coursework
- Medical College Admission Test (MCAT) score
- Additional advanced biology courses
- Extracurricular, volunteer, and research activities
- Application essays
- Interview performance

**Question: What percentage of Rice applicants are actually accepted to medical school?**

The acceptance rate of Rice’s senior graduating class has consistently been above 85% for those engaging with, and applying through the OAA.

**Question: What if I am not accepted by any of the medical schools to which I apply?**

Students should formulate a back-up plan from the beginning of their undergraduate career. Also, they should evaluate whether they really desire to become a physician. Sometimes, students overlook other allied health sciences that could potentially keep their interest. In addition, if rejected after the interview process, a follow-up with the medical school admissions committee often gives the student valuable feedback, allowing them to improve their application. Rice’s acceptance rate for re-applicants is excellent.
**Question:** What if I am not ready to apply by the time I graduate?

Each year, a good number of Rice students decide to wait on applying to medical school. Usually, these students pursue work in their field of study, gain more clinical exposure, or travel, work, or study abroad. It is not uncommon for students to take off some time to teach or conduct research. Medical school admissions committees look for maturity, exposure, and breadth of experience. For this reason, as long as time off before medical school is spent productively, it can augment an application. A student’s “gap year,” as it is often called, provides the opportunity to engage in different experiences that may not have been available during the undergraduate career. It also provides time to do things that won’t be possible after matriculating to medical school. The impact of these experiences is something students can discuss during interviews or in their personal statement. In fact, the average age of applicants to medical school is 24, indicating many applicants opt to wait after graduating from their undergraduate institution.

**Question:** How do I finance medical school?

The AAMC has a full page on “Financing your Medical Education” at:  
[https://www.aamc.org/services/first/first_for_students/](https://www.aamc.org/services/first/first_for_students/).

Also, Texas has the Joint Admission Medical Program (JAMP), for economically disadvantaged students who want to go to medical school. See more information at:  
[http://www.utsystem.edu/jamp/homepage.htm](http://www.utsystem.edu/jamp/homepage.htm).