Q: 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. There is a Health Professions Advisory Program that 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-Med Society (RPMS) which hosts special events and guest speakers on medical topics, Humanitarian Medical Outreach and a number of community service and non-profit organizations.

Q: What are the medical school course requirements?

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

<table>
<thead>
<tr>
<th>Subject</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>One year (can include HUMA 101 or 102)= 6 credits</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3-4 credits</td>
</tr>
<tr>
<td>Chemistry</td>
<td>6 hrs. lecture + 2 hrs. lab= 8 credits</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>6 hrs. lecture + 2 hrs. lab= 8 credits</td>
</tr>
<tr>
<td>Physics</td>
<td>6 hrs. lecture + 2 hrs. lab= 8 credits</td>
</tr>
<tr>
<td>Biology</td>
<td>6 hrs. lecture + 2 hrs. lab= 8 credits</td>
</tr>
</tbody>
</table>

- The Texas System requires an additional two 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.
  **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.**

Q: Can I take prerequisites over the summer (i.e. summer school 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 MCAT/DAT, etc. so mastery, over the long term, is essential to you performing well in upper level course work and on whatever entrance exam you are required to take.

**If you decide to take a course during the summer and at another institution, make sure you complete the transfer credit form prior to enrollment in that course if you are planning on using the course to satisfy degree credit/major requirements.**

**Remember, courses that are transferred into Rice will not be calculated into your Rice grade point average. The medical schools will use these course grades when calculating your overall GPA.**
**Q**: Is it necessary to major in a science discipline in order to apply to medical school?

It is not mandatory that you must choose a basic science major if you want to go to 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.” From Medical School Admission Requirements, 2010-2011

If you look at Table 18: MCAT and GPAs for Applicants and Matriculants to U.S. Medical Schools by Primary Undergraduate Major, 2008 ([http://www.aamc.org/data/facts/2008/mcatgpabymaj08.htm](http://www.aamc.org/data/facts/2008/mcatgpabymaj08.htm)) on the AAMC’s FACTS 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-med student can major in any discipline that interests them. 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.

**Q**: Should I use AP credits to fulfill my premedical requirements?

This is a question that must be answered on a case by case basis—only you know if you have really mastered AND retained the information you learned in the 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:

- If you choose to rely on a large number of AP credits to satisfy your premedical requirements, it leaves little for an admissions committee to judge you by.
- **REMEMBER:** There is no AP credit granted for General Biology Laboratory, thus you will have to complete at least 2 credit hours of BIOS lab during your undergraduate tenure.
- If you satisfy the general biology and general chemistry requirements with AP credits, you should also complete at least 2 semesters of upper level course work in each discipline:
  1) to satisfy the requirement at those schools that do not accept AP credit in those disciplines;
  2) to reinforce what was learned in the general level courses
  3) to establish that you are capable of performing well at the college level in each discipline;
  4) to confirm that you have mastered the foundational material presented in each of the general courses for which you hold AP credit.

**Check specific statements in medical/dental/veterinary school catalogs or web pages to determine their AP policies.**
Q: What if I'm not doing well in one of my prerequisites?
   It is the student's responsibility to take initiative when they are struggling in a course and approach the professor immediately. At the same time, there are many reasons you could not be doing well in a class. Therefore, you should also make an appointment with an advisor and discuss your options before it is too late. For more information, view the Academic Assistance tab on the Office of Academic Advising home page.

Q: Is it discouraged to take a class pass/fail?
   Yes. Many medical schools will not consider any pass/fail courses as fulfilling premedical requirements. Even in cases where there is no absolute prohibition, it is very inadvisable to take premed 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 you deserved in the course. Courses that are not premed requirements can be taken pass/fail, but those should be kept to a minimum.

-Other Opportunities:

Q: 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 you choose, stick with it for a period of time to demonstrate commitment and a sustained effort; also seek out leadership positions. As for summer opportunities, see the link under the Experience Opportunities and Scholarships page. For volunteer opportunities you can start with Rice's Community Involvement Center [http://www.ruf.rice.edu/~service/programs/asb/oldasb/asb03/mex_03_app.htm](http://www.ruf.rice.edu/~service/programs/asb/oldasb/asb03/mex_03_app.htm).

Q: 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 catches their interest. If planning on conducting research for course credit, see the BIOS 310 website [www.bioc.rice.edu/bios310](http://www.bioc.rice.edu/bios310). Also check out the Office of Fellowships and Undergraduate Research website for research opportunities. [http://cohesiondev.rice.edu/administration/undergradresearch_dev/index.cfm](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 them, including a resume and a request to meet with to discuss their research.

Q: When is a good time to start gaining clinical experience?
   Such activities are absolutely necessary both for you to find out about medicine and to show your commitment to medicine as a career. "Hands-on" interaction with patients and medical personnel gained by working or volunteering in a hospital is preferable to "shadowing" physicians, although the latter is also useful. It is never too early to shadow doctors. Shadowing shows 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 high grades and good recommendations sometimes are not admitted to medical school if they have had no contact with doctors and hospitals in the two or three years before applying.

---A word about EMT/EMS:
   It is natural for premedical students to be interested in participating in ACEMS and perhaps becoming certified as an EMT, and that's great. Be aware, however, that many medical schools seem to want applicants to have had contact specifically with doctors and hospitals. By its very nature, ACEMS leaves off where doctors and hospitals begin. ACEMS can supplement, but not substitute for, contact with doctors and hospitals, at least in the eyes of some admissions committees.
Q: Can I still study abroad? Is it okay to take prerequisites at an international institution?
Absolutely, with careful planning early on in course scheduling, 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 and/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.

At the same time, 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.

Q: When should I meet with a Health Professions advisor?
As early as possible. Students should acquaint themselves with Health Professions advising early on in their undergraduate career. The Health Professions Advisory Program in the Office of Academic Advising provides resources for students who are considering a variety of health professional schools after graduation. 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. Information is provided through direct contact with advisors and a library of professional school catalogs, directories, brochures and journals. There are freshman and sophomore sessions and open-file sessions for student planning on applying in the current application cycle offered in the fall. Link to calendar of dates.

Q: How do I make an appointment with the Health Professions Advising Office?
E-mail hpa@rice.edu or call 713.348.4060 to make an appointment with a Health Professions advisor. First year students should schedule an appointment with Mr. Anthony Pulido. All others should schedule an appointment with Dr. Dana McDowell. For general information regarding your impending application, please schedule an appointment with Ms. Noreen Hoard. IMPORTANT:
➢ Freshmen should attend a Freshman Pre-Health Professions Session prior to requesting an appointment.
➢ Sophomores should attend a Sophomore Pre-Health Professions Session prior to requesting an appointment.
➢ Juniors and those ready to apply, should attend an Open File Session prior to requesting an appointment.

Q: What is the difference between a DO and an MD?
DO is a doctor of osteopathic medicine while MD is a medical doctor. The main difference is that DOs 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 MD degree, the American Osteopathic Association (AOA) Commission on Osteopathic College Accreditation (COCA) accredits the 25 colleges that award the DO degree.


Comprehensive Health Professions FAQ (08/09)
Q: What is a DPM?
A DPM is a Doctor of Podiatric Medicine or podiatrist. There are eight colleges of podiatric medicine in the U.S.; all are governed by the American Association of Colleges of Podiatric Medicine (AACPM).

Q: What are combined degree programs?
Combined degree programs include:
- **MD/ID**: 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/section3/start.cfm).

Q: 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 for more information.

Q: What are good sources for investigating my options and choosing schools to apply to?
The AAMC website is a good source of information on different schools (www.aamc.org). Additionally, the Medical School Admission Requirements is an AAMC publication that offers a wealth of information for helping make the decision. Health Professions advising keeps copies for your review or the publication can be purchased on the AAMC website.

Q: 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?fuseaction=home.search&search_type=MS.

MCAT:

Q: When should I take the MCAT?
Students should consider taking the MCAT after completing premedical requirements. Most Rice students prepare/study during the summer following the sophomore year for the June, July, August and 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. The final opportunity to take the MCAT if you want to attend medical school immediately after graduating from Rice is September following the junior year for most medical schools. Nevertheless, a May, June, or July test date is recommended. More information on the MCAT can be found on the MCAT website at http://www.aamc.org/students/mcat/start.htm.

Q: 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.

Q: What are the advantages/disadvantages to taking the MCAT more than once?

Ideally, students should make their highest possible score the first time they take the test. Therefore, students should be well prepared when they go to take the test. At the same time, it is not uncommon or detrimental to your application to take the test a second time. Taking the MCAT another time allows for targeted preparation based on weaknesses identified (after taking the examination the first time) and the increased likelihood of improving your score. However, preparation is again key, since doing worse on the test the second time around shows no improvement and is not looked upon favorably.

Q: How do I study for the MCAT?

Studying for the MCAT depends on your particular study habits. If you are self-disciplined, begin studying on your own by either reviewing Biology, Chemistry, Physics, and Organic Chemistry, or by purchasing one of the study books released by the commercial sources (Princeton, Examkrackers, Kaplan, etc…). Additionally, to help you out on the Writing section, keep up with current events, practice improving your writing, and begin reading more. In particular, if you do not typically read passages on line, start doing so to train your brain for the format of passages that appear on the exam. If you would feel more motivated taking a course, there are a variety of commercialized courses available throughout the year. Additionally, the AAMC has just recently published *The Official Guide to the MCAT Exam*, which can be purchased through their website (Health Professions advising also has a copy for your perusal). They also include study tips on their website (http://www.aamc.org/students/mcat/preparing/creatingstudyplan.htm).

Q: What is the average MCAT score?

The national average of scores for applicants and matriculants to medical schools can be found at http://www.aamc.org/data/facts/2008/2008mcatgpa.htm. Available on the AAMC website is also a grid that shows acceptance rates based on GPA and MCAT score (http://www.aamc.org/data/facts/2008/mcatgpa-grid-3yrs-app-acpt.htm). Rice student averages are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>30.9</td>
<td>18</td>
<td>42</td>
<td>31</td>
</tr>
<tr>
<td>2008</td>
<td>32.9</td>
<td>22</td>
<td>40</td>
<td>34</td>
</tr>
<tr>
<td>2009</td>
<td>31.8</td>
<td>20</td>
<td>40</td>
<td>32</td>
</tr>
</tbody>
</table>

Q: What does “competitive score” mean?

To be admitted to medical school you must have relatively good grades and MCAT scores. There is no clear boundary for either. Just remember that good grades are simply a statement of scholastic aptitude. As a general rule, a cumulative grade point average of 3.3 (B+) and an MCAT score of 27 would be the minimum, but does not necessarily make you the best applicant. You ought to strive for a cumulative grade point average of above 3.5 and an MCAT score above 30; the Rice mean MCAT score is 32*, which has consistently been above the national mean of 28*. The averages of students accepted to medical school in 2007 were a 30.8 MCAT total score, a ‘P’ on the Writing Sample, and a 3.65 overall gpa†. Also remember that students are accepted or rejected not only on the basis of numbers, but also on the basis of an overall evaluation that includes grades, MCAT scores, recommendations, extracurricular activities, state of residency, motivation, and the impression you give during your interview.

*Mean scores in 2008
†from the 2009 Edition of The official Guide to the MCAT Exam

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

Comprehensive Health Professions FAQ (08/09)
The process technically begins when a student opens a file with the Health Professions Advising Program prior to December 1 of junior year (more information on opening up a file can be found in the Opening Up a File section of this website). 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 (AMCAS and TMDSAS).

Admissions:

Q: 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 to be received in the Health Professions Advising Office by June 1. Personal Statements and CVs should be submitted by January 15, and an appointment for an exit interview should be made before April 30. By the end of the summer, earlier in the summer than later, web-based common applications should be completed. Thereafter, any secondary invitations should be submitted within two weeks of retrieval (see Suggested Timetable).

Q: What are the differences between AMCAS and TMDSAS?
AMCAS is the abbreviation for The American Medical College Application Service, while TMDSAS represents the Texas Medical and Dental Schools Application Service. Therefore, the most obvious difference is that TMDSAS applies only to Texas state medical schools (everything except Baylor College of Medicine, which is private). TMDSAS also accepts application submissions starting at the beginning of May, compared to the beginning of June for AMCAS. Additionally, the TMDSAS personal statement is approximately 4800 characters, compared to 5300 for AMCAS. TMDSAS also has two sections in which you name extracurricular activities and experiences and a “Special Experiences” section for any other extra information not previously mentioned.

Q: What is a personal statement?
The personal statement is the medical school application essay. For example, the AMCAS prompt is: “Explain why you want to go to medical school.” Each applicant is given approximately 900 words to get their point across to the admissions committee members. Ultimately, the personal statement should convey that the student is passionate and 100% sure about becoming a physician. This assertion should be backed up with clinical/research experiences acquired during the undergraduate career. More information on how to write a personal statement in Resources of this website.

Q: How do I request letters of recommendation from professors?
Once a student opens a file with our office, they are given waivers 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, schedule an appointment to ask the professor about getting a letter from them. When you go to the appointment, bring a resume, unofficial transcripts, your personal statement, waiver, and envelope, all in a folder marked “Letter of Recommendation.” Check in approximately every month afterwards to ensure they submit the letter on time. Once the letter is finished, send a thank you note and update the letter-writer on your progress. Once all your letters are received in our office, the health professions advisor will then write a composite letter, based on the faculty/advisor recommendation letters, personal statement, resume, and exit interview.

Q: What are the qualities considered in my application to medical school?
Considerations for admission to medical school are:
   - Academic performance in premed course requirements and other course work
   - MCAT score
   - Additional advanced biology courses
   - Extracurricular, volunteer, and research activities, et cetera

Q: What percentage of Rice applicants are actually accepted to medical school?
The acceptance rate of Rice’s senior graduating class has consistently been over 90%.

Q: 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. Oftentimes, students overlook other Allied Health Sciences that could potentially hold their interest. Additionally, 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 reapplicants is close to 100%.

Q: What if I am not ready to apply by the time I graduate?
Each year, a good number of Rice students decide to put a hold on going to medical school. Usually these students pursue work in their field of study, try to get more clinical exposure, or travel, work, or study abroad. It is not uncommon for them 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 your application. Your “gap year,” as it is often called, gives you the opportunity to engage yourself in different experiences you may not have had time for during your undergraduate career or that you wish to have previous to dedicating yourself to becoming a physician. The impact of these experiences is something you can discuss during interviews or in your personal statement, making you a better applicant. In fact, the average age of applicants to medical school is 24, indicating many people nationwide opt to wait some time after graduating from their undergraduate institution.

Q: How do I finance medical school?
The AAMC has a full page on “Financing your Medical Education” at http://www.aamc.org/students/financing/start.htm. Also, Texas has JAMP, or Joint Admissions Medical Program, for economically disadvantaged students wanting to go to medical school. See more information at http://www.utsystem.edu/jamp/homepage.htm.