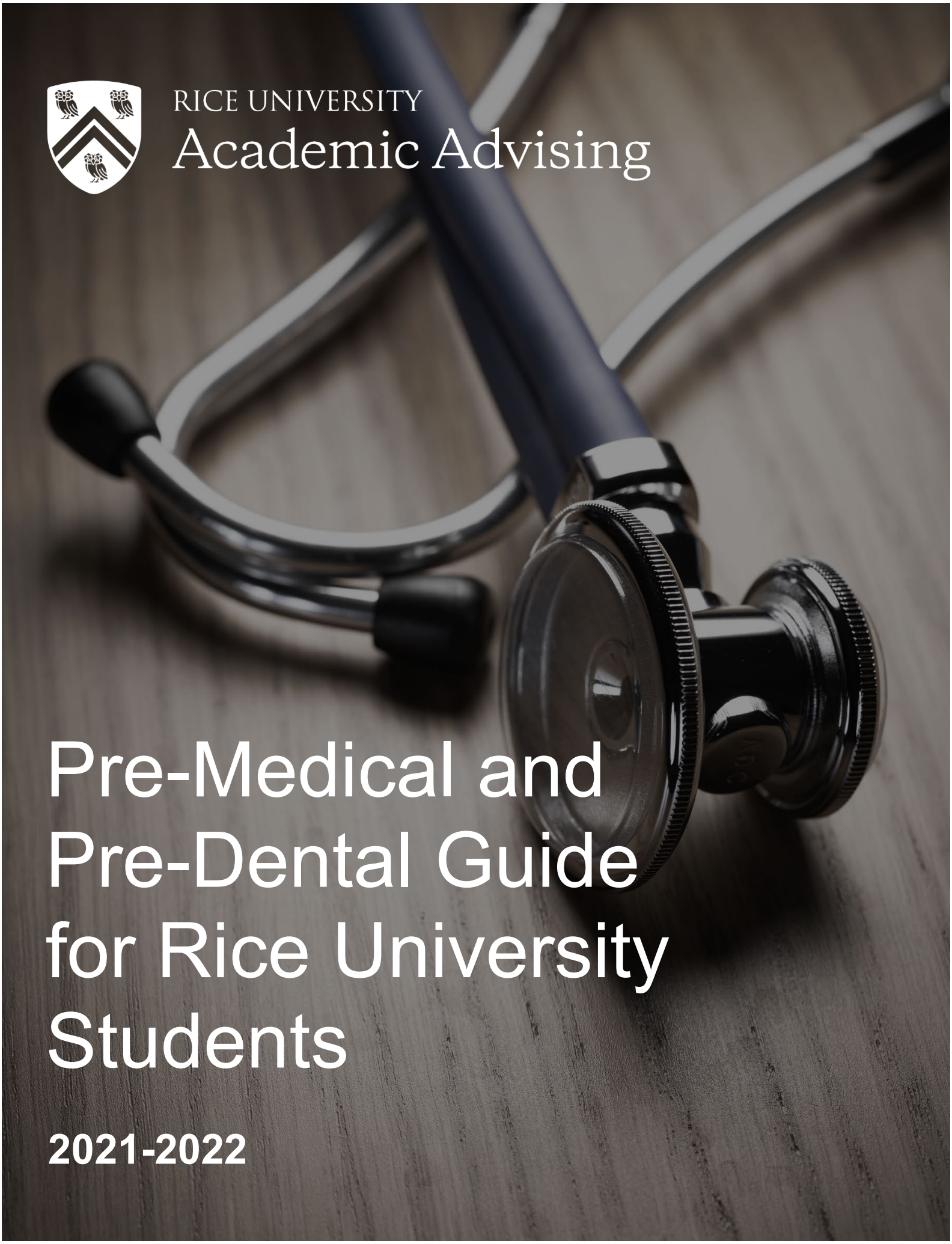

RICE UNIVERSITY
Academic Advising

Pre-Medical and Pre-Dental Guide for Rice University Students

2021-2022

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RICE UNIVERSITY
Academic Advising

Welcome Letter from the Office of Academic Advising

To Our Rice Pre-Health Students,

As you embark on your undergraduate career, we recommend that you use this period of your life to explore your options, discover who you are, develop strong critical thinking and study skills, engage in experiences that allow you to integrate your learning with practical application, and begin to make meaningful contributions to your community. Should you decide that the health professions route is what you intend to pursue, it is our hope that this guide will address most of your concerns.

The Pre-Medical and Pre-Dental Guide provides an overview of the application process to medical and dental schools in the United States – the timeline, coursework, and other components that comprise a competitive application. This guide will serve as a useful resource in creating your academic plan at Rice and throughout the medical and dental application process.

All advisors in the Office of Academic Advising (OAA) are official health professions advisors registered with the Association of American Medical Colleges. We maintain membership in several professional organizations to remain current on the latest trends and data related to medical and dental school admission. While there are many resources you may choose to consult regarding your potential path towards medical or dental school, we strongly recommend that you contact the OAA for tailored advice regarding your personal plan.

Additionally, the OAA provides health professions advising for students interested in other healthcare fields. While most of our pre-health students intend to pursue careers as a physician or dentist, many other career paths lead to employment in healthcare settings too. Studies in allied health sciences include but are not limited to pharmacy, optometry, podiatry, public health, physical therapy, occupational therapy, speech therapy, and veterinary medicine, and the OAA advises for these health professions too.

As you delve deeper into this process, our advisors are available to answer any specific questions you may have. We encourage you to schedule an appointment for further assistance. We look forward to working with you!

Your Advisors in the Office of Academic Advising

P.S. You can schedule an OAA appointment **online** by clicking the link in the blue banner at the top of the page at **https://oaa.rice.edu/.** You can also come to the Office of Academic Advising, located in **Suite 132 of the Ley Student Center**, to schedule an appointment, or give us a call at **713.348.4060**. Quick health professions questions can be directed to **hpa@rice.edu**.

We are also active on social media, so click the icons below to follow us!

facebook.com/riceacademics

@RiceAcademics

@RiceAcademics

Meeting with an Advisor

Academic advising is handled by an entire community of advisors, including Divisional Advisors (pre-major faculty advisors) and Peer Academic Advisors (PAAs). Many regular advising questions can be answered accurately and efficiently by asking any member of this large community, many of whom are readily available in the residential colleges. Each has basic training and resources provided by the OAA regarding health professions, but the OAA is the primary hub for health professions advising. When students need individualized assistance regarding health professions, they should schedule an appointment online with any of the advisors in our office, all of whom are official health professions advisors registered with the Association of American Medical Colleges (AAMC). OAA advisors can provide information about all pre-health fields.

Click here to schedule an appointment with an OAA advisor through Navigate Rice!

***Incoming freshmen**: Please note that OAA advisors will not be meeting with incoming pre-health freshmen until after Freshman Health Professions Orientation on August 25, 2021. Please do not schedule an OAA appointment until after you attend that session.*

Health Professions Advising Newsletter

The OAA's Health Professions Advising Newsletter is designed to communicate updates and events of interest to students preparing for a career in the health professions. Current Rice students as well as alumni can request to be added to our newsletter mailing list by sending an email to hpa@rice.edu. All incoming freshmen who have marked an interest in pre-health on their advising questionnaire will automatically be added to the newsletter mailing list. **Please double check your spam folder in your email to ensure you are not accidentally missing our mailings as they come from MailChimp.**

Types of Medical and Dental Degrees

As you read this guide, it is helpful to know that the term "medical school" refers to both allopathic and osteopathic medical school. Allopathic medical schools award an MD degree, and osteopathic medical schools award a DO degree. Either degree type will allow you to become a licensed practicing physician in any US state and in any specialty. We encourage pre-med students to explore all of the possibilities that both MD and DO schools provide, as neither type of degree is better than the other.

Similarly, dental schools award either a DMD or a DDS degree to their graduates. You can be a licensed practicing dentist in any US state and in any specialty with either degree type.

Pre-Health Timeline

If you are considering a career in health care, you will need to complete all the required prerequisite courses and gain valuable clinical and other experiences, such as research, community service, and leadership, before applying to a professional school. This timeline is designed for students who intend to matriculate immediately after graduating from Rice and serves as a point of reference to help you prepare your application and meet deadlines. Students who are planning to take a gap year between Rice and medical/dental school can consult with an OAA advisor to discuss extending the timeline.

First Year	
Fall Semester	Spring Semester
• Begin to survey career options in health care at https://www.explorehealthcareers.org/ • Attend the OAA Freshman Health Professions Advising Orientation • Join Rice Pre-Medical Society (RPMS), Rice Pre-Dental Society (RPDS), or other pre-professional student organizations • Engage with the Rice advising community to create a tentative academic plan	• Explore different majors that interest you • If desired, make arrangements to conduct undergraduate research • Visit the Center for Civic Leadership (CCL) to identify volunteer programs of interest • Visit the Center for Career Development (CCD) to identify summer programs/job opportunities; apply for an OwlEdge Externship; attend the Rice Career and Internship Expo • Visit the Study Abroad Office to plan ahead for opportunities during your junior or senior year
Second Year	
Fall Semester	Spring Semester
• Attend the OAA Sophomore Information Session • Plan the intellectual focus of your curriculum; narrow choices for a major • Begin to obtain clinical observation/shadowing experience • Continue volunteer work • Continue research, if applicable	• Declare a major • Apply for summer programs • Check professional school admission requirements • Begin preparation for the standardized test: independent review, Kaplan, The Princeton Review, Examkrackers, etc.
Third Year	
Fall Semester	Spring Semester/Summer**
• Attend one of the Open File Information Sessions • Sing up for the OAA's Open File before Winter Recess begins • Begin preparing high school paragraph, curriculum vitae, pre-application form, and draft personal statement as part of Open File • Request letters of evaluation before January 31, to be received in the OAA by mid-May • Consider potential gap year opportunities: employment, fellowships, research, clinical exposure, volunteer programs, continued education, etc. • Take standardized exam during your third year	• Submit OAA Open File materials • Make pre-application appointment with OAA before April • Review professional school admission requirements again; research institutions of interest and create list of schools for application • Begin web-based common applications to professional schools (AMCAS, TMDSAS, AACOMAS, AADSAS, VMCAS, PharmCAS, SOPHAS, PTCAS, etc.) **Summer - Complete and submit both primary and secondary applications by early July
Fourth Year	
Fall Semester	Spring Semester
• Continue progress toward completion of major and degree requirements • Complete remaining prerequisite coursework • Prepare to interview at professional schools	• Complete remaining degree requirements • Update the OAA with your admission status • Graduate!

Course and Standardized Test Requirements for Admission

Prerequisite Course Requirements

There is an ongoing, national conversation on pre-medical prerequisites, and so undergraduate requirements for these programs are constantly under review. Nevertheless, with few variations, the majority of medical and dental schools require completion of the following courses.[1] Students will need to create an academic plan to accommodate these courses alongside their requirements for graduation.

Course	Required Lecture	Recommended Lecture	Hours	Required Lab	Hours	Total Hours
Biology[2]	•		6	•	2	**8**
Texas public medical schools (and many others) require more than 8 credit hours of Biology.						
General Chemistry	•		6	•	2	**8**
Organic Chemistry	•		6	•	2	**8**
Biochemistry[3]	•	•	3			**3**
Physics	•		6	•	2	**8**
Mathematics[3]	•	•	3-4			**3-4**
Statistics[3]	•	•	3-4			**3-4**
Psychology[4]		•	3			**3**
Sociology[4]		•	3			**3**
Humanities/Social Sciences[4]	•	•	12+			**12+**
English	•		6			**6**

[1] For specific requirements to other programs (veterinary medicine, pharmacy, optometry, etc.), please visit the OAA's website on Allied Health Professions.
[2] Dental schools require additional coursework in microbiology. BIOC 424 will satisfy this requirement.
[3] Many medical schools **require** at least 3 hours of this discipline as a requirement. Others **strongly recommend**.
[4] Psychology and sociology are required components on the MCAT exam, and some schools require these courses or generally require coursework in the humanities, behavioral sciences, and/or social sciences.

The specific requirements for each medical school can be found in the yearly publication from the Association of American Medical Colleges, *Medical School Admission Requirements (MSAR),* which can be purchased from the AAMC website: www.aamc.org. DO schools' information can be found free online in the ChooseDO Explorer at www.choosedo.org/explorer. Likewise, the American Dental Education Association publishes the *Official Guide to Dental Schools*, which can be purchased from the ADEA website: www.adea.org.

Rice Courses that Satisfy Most Medical and Dental School Admission Requirements

Subject	Lecture Only	Lab Only	Lecture/Lab Combined
Biology*	BIOS 201, 202	BIOS 211, 212, 213	
General Chemistry	CHEM 121, 122, 151, 152, 201, 360	CHEM 123, 124, 153, 154, 205, 366	
Organic Chemistry	CHEM 211, 212, 319, 320	CHEM 215, 365	
Biochemistry	BIOC 301 BIOE 330**		
Physics			PHYS 101, 102, 111, 112, 125, 126
Calculus	MATH 101, 102, 111, 112, 211, 212, 221, 222		
Statistics	BIOE 439*** STAT 280, 305, 310, 315		
English	FWIS 101-199 Any ENGL-prefixed course		

* Note that BIOS-prefixed courses used to have BIOC and EBIO prefixes prior to Fall 2020. If a school requires more than 8 hours of biology, select 300-level BIOS courses to fulfill their requirements. Cell Biology and Genetics are often strongly recommended by many medical schools.

** Indicates that specific institutional requirements should be checked because some schools require that biochemistry be taught in a biology or chemistry department.

*** Indicates that specific institutional requirements should be checked because some schools require that statistics be taught in a mathematics or statistics department.

Rice Courses that Satisfy Texas Public Medical and Dental School Admission Requirements

The following Rice University courses have been approved by the Texas Medical and Dental School Application Service (TMDSAS) to fulfill prerequisite requirements for public medical and dental schools in Texas. **Note that the list below may include some classes that are not currently offered, and note that this table will be updated periodically as TMDSAS approves more courses.**

Subject	Lecture Only	Lab Only	Lecture/Lab Combined
Biology†	**BIOS** 201, 202, 300, 321, 331, 332, 334, 335, 341, 344, 371, 372, 385, 424, 442, 443, 445, 447, 449, 450, 460, 463, 481, 482 **BIOE** 302, 307, 321, 322, 341, 370, 372, 381, 403, 408, 420, 422, 464 **CHBE** 310 **KINE** 300*, 301, 302, 321 **NEUR** 323, 380	**BIOS** 111, 112, 211, 212, 213, 305, 310, 311, 313, 316, 318, 320, 332, 413, 415 **BIOE** 320, 342 **EBIO** 316, 332 **KINE** 323, 351 **NEUR** 310, 331 **NSCI** 120	**KINE** 300*
General Chemistry	**BIOS**† 352 **CHEM** 111, 112, 121, 122, 151, 152, 201, 360	**CHEM** 113, 114, 123, 124, 153, 154, 205, 366	
Organic Chemistry	**CHEM** 211, 212, 319, 320	**CHEM** 215, 365	
Biochemistry	**BIOC** 301, 302 **BIOE** 330**		
Physics			**PHYS** 101, 102, 111, 112, 125, 126
Calculus	**MATH** 101, 102, 105, 106, 111, 112, 211, 212, 221, 222		
Statistics	**BIOE** 391, 439*** **KINE** 319*** **PSYC** 339*** **SOCI** 382*** **SOSC** 302*** **STAT** 280, 305, 310, 312, 315, 453		
English	**HUMA** 101, 102 **FWIS** 101-199 Any **English** course with **ENGL** prefix		

† Beginning Fall 2020, all courses in the BioSciences Department have the BIOS prefix. Previously, these courses were offered under BIOC and EBIO prefixes. This course prefix shift did not impact TMDSAS course approval, but if you took a BIOC or EBIO course and are in doubt about whether it was an approved Biology course, please refer to the **TMDSAS webpage for Rice-approved courses here**, or contact the OAA at hpa@rice.edu.

* KINE 300 was a 3-credit lecture-only course until Fall 2019 when it became a 4-credit combined lecture and lab course.

** Indicates that specific institutional requirements should be checked because some schools require that biochemistry be taught in a biology or chemistry department.

*** Indicates that specific institutional requirements should be checked because some schools require that statistics be taught in a mathematics or statistics department. PSYC 339 and SOCI 382 were approved statistics courses although they are no longer offered; they were last offered in Spring 2018.

Advanced Placement (AP) Credit

Although Advanced Placement credit may be used to satisfy some requirements for many medical and dental schools, not all schools will accept it. The OAA Pre-Health Professions page features a summary document titled "AP Credit List for Medical Schools" that identifies the AP credit acceptance policy at different schools. However, students should still check websites or contact admission offices to determine each school's current AP policies and decide whether to use their credit or complete the coursework at Rice.

Students should consider whether they have sufficient knowledge of the information presented in an AP course to perform well in upper-level coursework, and on professional school admission tests. If students feel they have not attained the foundational knowledge of the subject area, they may instead choose to complete the coursework at Rice. This option has the benefit of reinforcing and confirming mastery of the material, establishing their capability of performing well at the college level in each discipline, and satisfying the course requirements for schools that do not accept AP credit. **When in doubt, retake the course at Rice**.

If a student chooses to use a large number of AP credits to satisfy prerequisite course requirements, it leaves little for an admission committee to assess. For example, if a student satisfies the general biology requirements with AP credits, they should complete at least two additional semesters of upper-level course work in that discipline. All students must complete at least two credit hours of biology lab during their undergraduate tenure, as there is no AP credit granted for general biology laboratory.

Medical College Admission Test (MCAT) and Dental Admission Test (DAT)

In addition to the prerequisite courses described above, medical and dental schools require the Medical College Admission Test (MCAT) and the Dental Admission Test (DAT) respectively. The MCAT exam is a standardized, multiple-choice examination designed to assess your problem solving, critical thinking, and knowledge of natural, behavioral, and social sciences. It consists of four sections which draw from biology, biochemistry, general chemistry, organic chemistry, physics, psychology, and sociology. Scores on the MCAT are reported as four scaled scores, each ranging from 118 (low) to 132 (high). The total score is the sum of the four individual section scores and ranges from 472 to 528.

The DAT is designed to measure your knowledge of scientific information, reading comprehension, quantitative reasoning, and perceptual ability. It is comprised of four sections which draw from biology, general chemistry, organic chemistry, and mathematics. DAT results are reported in terms of scale scores, ranging from 1 (low) to 30 (high).

It is recommended that students take the appropriate standardized test soon after completing the prerequisite course requirements. The MCAT and DAT are exams you must spend a significant amount of time preparing for, either in self-study or via a preparation course. Ideally, students score their highest possible score the first time they take the test. However, it is not uncommon or detrimental to take the test a second time. This can allow for targeted preparation based on identified weaknesses and increase the likelihood of earning a higher score. Earning the same score or a lower score on the second test is not looked upon favorably by admission committees. Therefore, we encourage students to carefully consider whether taking the test a second time will be beneficial to their overall applications, and we encourage students not to rush to take the exam. Spending the time necessary to master the science courses tested on the MCAT will ultimately lead to better outcomes than stacking prerequisites to get through them as fast as possible.

If a student intends to attend medical or dental school immediately after graduating from Rice, we strongly recommend taking the test in January through May of junior year. The latest opportunity to take the test is in August after junior year, but we do not recommend this as you are likely to be at a disadvantage because many applicants have already been invited for interviews at this point due to the rolling admissions cycle.

Scores are valid for three years in most instances (although some schools allow scores of up to five years old).

- For more information and to register for the MCAT, please click here.
- For more information and to register for the DAT, please click here.

Grades, Science GPA, and Standardized Test Scores

Students must have strong grades and test scores for admission to medical and dental school. A student's science grade point average is of particular importance and includes coursework in biology, chemistry, physics, and mathematics. **Use the AMCAS Course Classification Guide to better understand which coursework counts toward your science GPA in AMCAS.** Generally, students should strive for both a cumulative grade point average and a science grade point average above 3.50. The average Rice applicant has been consistently above the national mean, as shown in the table below. Keep in mind that the greater the competition to a particular school, the higher your GPA and test score must be for you to be a competitive applicant.

Entered Medical School in Fall ___	Students from Rice Admitted to Medical School		Students Nationally Admitted to MD Schools (AMCAS Data)		Students Nationally Admitted to DO Schools (AACOMAS Data)	
	Rice GPA	MCAT	GPA	MCAT	GPA	MCAT
2017	3.77	514	3.71	510	3.56	503
2018	3.79	515	3.72	511	3.54	504
2019	3.80	516	3.73	511		
2020	3.79	517	3.73	511		

Entered Dental School in Fall ___	Students from Rice Admitted to Dental School		Students Nationally Admitted to Dental School (AADSAS Data)	
	Rice GPA	DAT	GPA	DAT
2018	3.71	23.2	3.55	20.5
2019	3.72	23.7	3.57	20.7
2020	3.61	23.8	3.58	20.8

Note that acceptance to medical and dental school is not based solely on numbers. Admission is based on a holistic evaluation that also includes relevant health care experiences, co-curricular involvement, recommendations, residency, motivation, and the impression of the candidate by an admission committee during an interview. Do not be discouraged from pursuing medicine or dentistry if your first year of science grades is lower than you had hoped or intended. Admission committees value an upward trend in your record of academic performance. If you have received a C or lower grade in a science course, it is a good idea to make an appointment with an academic advisor to discuss your course load, your co-curricular activities, and strategies as you continue your studies. Visit the OAA Academic Support website for more information and resources.

Sample Course Schedules

Below are three examples of how Rice students can plan to complete the course requirements for medical and dental schools. These sample schedules do not attempt to display major or degree requirements. We encourage you to meet with an advisor and adjust these examples to fit your specific academic plans. Note that some schools may have additional requirements, which can be found on each school's website.

Natural Sciences Students without Advanced Placement (AP) Credit

First Year	
Fall Semester	Spring Semester
• BIOS 201 • CHEM 121/123 • FWIS/ENGL • MATH 101	• BIOS 202 • CHEM 122/124 • FWIS/ENGL
Second Year	
Fall Semester	Spring Semester
• BIOS 211, 212, or 213 • CHEM 211 • PHYS 125** • PSYC/SOCI	• CHEM 212 • CHEM 215 • PHYS 126** • PSYC/SOCI
Third Year	
Fall Semester	Spring Semester/Summer
• BIOS 301 Study for standardized test	Take standardized test between January and May. Summer – Complete and submit both primary and secondary applications in a timely manner.
Fourth Year	
Fall Semester	Spring Semester
• Continue progress toward completion of major and degree requirements.	• Complete remaining degree requirements.

***Add two biology lectures and statistics where they fit best in any semester.**

****PHYS 125/126 could be done during junior year instead.**

Humanities and Social Sciences Students without Advanced Placement (AP) Credit

First Year	
Fall Semester	Spring Semester
• CHEM 121/123 • FWIS/ENGL • MATH 101 • PSYC/SOCI	• CHEM 122/124 • FWIS/ENGL • PSYC/SOCI
Second Year	
Fall Semester	Spring Semester
• BIOS 201* • CHEM 211	• BIOS 202* • BIOS 211, 212, or 213 • CHEM 212 • CHEM 215
Third Year	
Fall Semester	Spring Semester/Summer
• BIOS 301 • PHYS 125	• PHYS 126 Summer – Take standardized test by the end of May. Complete and submit both primary and secondary applications in a timely manner.
Fourth Year	
Fall Semester	Spring Semester
• Continue progress toward completion of major and degree requirements.	• Complete remaining degree requirements.

***Biology sequence could be done during freshman year instead.**

****Add at least two biology electives and statistics where they fit best in any semester.**

Engineering Students without Advanced Placement (AP) Credit

First Year	
Fall Semester	Spring Semester
• CHEM 121/123 • FWIS/ENGL • MATH 101 • PHYS 101	• CHEM 122/124 • FWIS/ENGL • PHYS 102
Second Year	
Fall Semester	Spring Semester
• BIOS 201 • CHEM 211 • PSYC/SOCI	• BIOS 211, 212, or 213* • CHEM 212 • CHEM 215* • PSYC/SOCI
Third Year	
Fall Semester	Spring Semester/Summer
• BIOC 301 (or BIOE 330 in Spring)	Spring – Take standardized test between January and May. Summer – Complete and submit both primary and secondary applications in a timely manner.
Fourth Year	
Fall Semester	Spring Semester
• Continue progress toward completion of major and degree requirements.	• Complete remaining degree requirements.

***Engineering students may need to be more flexible with where they place their lab courses. Add three biology electives and statistics where they fit best in any semester.**

Students with Advanced Placement (AP) Credit in Biology, Chemistry, Mathematics, and Physics

Some students arrive at Rice with substantial Advanced Placement credit. Talk with an advisor and instructors in the relevant subjects to help you determine whether your background has prepared you for more advanced courses, particularly in biology, chemistry, and physics. Rather than use your AP credit, you may choose to complete the introductory courses at Rice in order to confirm mastery of the material and satisfy the requirements at medical and dental schools that do not accept AP credit.

First Year	
Fall Semester	Spring Semester
• BIOS 300 • FWIS/ENGL	• CHEM 211 • FWIS/ENGL
Second Year	
Fall Semester	Spring Semester/Summer
• BIOS 211, 212, or 213 • CHEM 212 • CHEM 215 • PSYC/SOCI	• BIOS 301 • PSYC/SOCI Summer – Study for and take standardized test; if not ready, take test during junior year.
Third Year	
Fall Semester	Spring Semester/Summer
	Summer – Complete and submit both primary and secondary applications in a timely manner.
Fourth Year	
Fall Semester	Spring Semester
• Continue progress toward completion of major and degree requirements.	• Complete remaining degree requirements.

IMPORTANT NOTE: Add three biology electives and statistics before the end of your junior year. Students with substantial AP credit should note that medical schools still need to see mastery of science through robust science coursework to make an admissions decision. We strongly encourage you to add as much additional coursework in the biological and natural sciences to your schedule as possible.

Planning and Tailoring Your Undergraduate Program of Study

Choosing a Major

Medical and dental schools limit their entrance requirements to a few courses across some basic subjects that are part of any broad undergraduate education. Because of this, medical and dental schools accept students with a variety of majors. **It is a myth that you must major in a natural sciences field to be accepted to medical or dental school.** We encourage you to seek out a major that both interests you and in which you can perform well academically. Pursuing a major that gives you a broader perspective of another subject area in addition to the hard sciences can make you a strong, well-rounded applicant. Rice graduates who are attending Texas and out-of-state medical and dental schools have pursued all of the majors offered at Rice.

Biology, Chemistry, Mathematics, and Physics Placement

Rice's BioSciences, Chemistry, Mathematics, and Physics departments provide materials to assist students with selecting which courses to take during their first year. These materials are available on the OAA website under the section titled "Academic Planning" on the Freshmen page. The appropriate courses may be chosen based on your background in the subject and performance on a placement exam, as well as your academic interests and prospective majors.

As stated previously, students may use Advanced Placement credit if the schools to which they plan to apply accept AP credit for introductory courses. They may still choose to complete the coursework at Rice in order to reinforce and confirm mastery of the material. If necessary, talk with an advisor and instructors in the relevant subjects to help you determine whether your background has sufficiently prepared you for more advanced courses.

At Rice, students are not required to declare a major until the end of sophomore year, but the type of mathematics and physics courses taken as a first-year student may limit major options. Students considering majors in engineering or natural sciences must often enroll in MATH 101 and 102, and PHYS 101 and 102. Students considering majors in biological sciences may choose PHYS 125 and 126. Students who are certain they will not pursue majors in engineering or natural sciences may enroll in MATH 111 and 112 and PHYS 125 and 126. Undecided students may decide to pursue the mathematics and physics courses for engineering and natural sciences majors, as this gives them the most options for choosing future courses.

Course Load

The average course load for Rice students is between 14-16 credit hours per semester. Note that engineering and natural science courses with labs can be especially time-consuming. First year students in particular should avoid overloading themselves. It is important to transition successfully to Rice, and that begins with a balanced schedule with courses in a variety of disciplines. Focus on developing the time management and study skills that will foster success in advanced coursework and professional school.

Similarly, students should avoid registering for fewer than 12 credit hours in a semester (part-time status). Applicants to medical and dental schools must demonstrate the ability to manage a consistently rigorous curriculum that includes advanced science coursework as well as a love of learning through in-depth study of a particular area of interest. Speak to an OAA advisor if you feel you need to go below 12 hours.

Pass/Fail

Medical and dental schools will not consider any required prerequisite courses taken pass/fail as fulfilling their requirements, with the exception of the Spring 2020 semester which was impacted by

COVID-19. Prerequisite courses must be taken for a letter grade. If you anticipate an exceptionally challenging semester, it is acceptable to take one of your elective courses pass/fail in accordance with the rules in Rice's General Announcements. Note that even in cases where taking a course pass/fail is not absolutely prohibited, it may still be inadvisable. A grade of 'D' counts as a "Pass" in a pass/fail course, so admission committee members may assume a grade of 'D' was earned in the course and judge an applicant less favorably.

The Office of the Registrar does not reveal letter grades earned in any course with a grade of P when you order an official transcript for your application to health profession schools. If desired, students can convert a pass/fail to a graded course by submitting the proper online form with the Office of the Registrar before the end of the second week of the following semester.

Summer School and Taking Prerequisite Courses at a Different Institution

It is possible to take prerequisite courses over the summer as long as they are taken at Rice or another reputable four-year institution. (Community colleges are discouraged, as some medical schools will not accept coursework from them). **It is not recommended that you take more than a couple of the prerequisites during the summer months.** Summer courses often squeeze a semester of work into five weeks. Such a short time typically does not provide the level of mastery students should achieve in the course to perform well in advanced coursework and on standardized tests.

Students who take a course during the summer and at another institution should read the information about transferring credit and fill out the Undergraduate Transfer Credit Request Form. If students need the course(s) to satisfy degree and/or major requirements at Rice, they must also secure approval from the appropriate Transfer Credit Advisor prior to enrollment in the courses. Courses transferred to Rice will not be calculated into your Rice GPA, but professional schools will still use these grades when calculating your overall GPA, as you will send all transcripts from every school you have ever attended when applying.

Study Abroad

Medical and dental schools are interested in individuals who are broadly educated. A study abroad experience can enhance your application if you immerse yourself in learning about the people, language, and culture of the country in which you study. Studying abroad can also give you exposure to more areas of interest such as global health. Students can explore study abroad opportunities and search for programs specifically focused on medicine and global health on Rice's Study Abroad Office website.

With careful academic planning, any student can study abroad and successfully apply to medical or dental school. While it is acceptable to take science courses abroad, medical and dental schools will not accept credits for prerequisite courses taken abroad. You will also need to schedule your standardized test allowing for adequate preparation before or after your semester or summer abroad.

Gap Years

It can be challenging for students to complete all of the prerequisite courses for medical and dental schools in three years, unless they are using substantial AP credit. Students must also make time to gain clinical experience, engage in community service, and possibly conduct research before applying. Some Rice students decide to take four years to prepare, and this choice is becoming more and more common each year at Rice and across the country. **Taking a gap year (or more) does NOT negatively impact your medical or dental school application.**

If you choose to spread out the required coursework over four years, then you would take the appropriate standardized test at the end of your senior year, submit your applications to professional schools, and take

a year to work or follow other interests while you go through the admission process. A student's "gap year" or "growth year", as it is often called, provides the opportunity to engage in experiences that may not have been available during the undergraduate years or will not be possible after matriculating to a professional school. Students often choose to work in their field of study, gain more clinical exposure, conduct research, engage in service, or travel abroad. It is also common for students to pursue other graduate degrees. As long as your time is spent productively, it can strengthen and augment your application.

According to the AAMC, nearly 60% of entering medical students in 2015 had taken at least one year off between their college graduation and entrance to medical school. More information can be found by clicking here.

Medical and dental schools look favorably on applicants who are older, more mature, and who have more extensive life experiences. **The median age of applicants to medical school is 24, indicating many students opt to apply after graduating from their undergraduate institution.** Therefore, students can feel secure in their decisions to enjoy their four undergraduate years and take advantage of the many opportunities that Rice offers. Talk with an advisor about all of your possible options and consider that taking four years to complete requirements could give you more opportunities for achievement. **Be sure to visit the OAA's page on gap years.**

Post Baccalaureate Programs

Sometimes students will delay applying to professional schools in order to improve their academic record and/or better prepare for the standardized test. Post baccalaureate programs, which students do after earning a bachelor's degree, support students' transitions from undergraduate to professional school. Students should talk with an advisor about whether such a program would enhance their application and competitiveness for admission.

There are many different programs available designed to address the requirements that post baccalaureate students need to be competitive applicants. Most post baccalaureate programs range from one to three years in length. Some programs offer a certificate of completion while others offer a master's degree. There are advantages to seeking programs that lead to a master's degree, especially if you decide ultimately not to pursue admission to a medical or dental school. Some programs may have credit-sharing agreements with professional schools. In this case, there may be agreements for conditional admission based on how successfully students complete the program.

The AAMC provides a searchable database to help you find the program that is right for you.

Co-curricular Activities

Your undergraduate years at Rice should not be viewed simply as academic preparation for a health professions school. You should use these years to explore your interests, find out who you are, and discover what you can achieve. In addition to a strong academic foundation, medical and dental schools look for applicants who possess motivation, maturity, cultural sensitivity, compassion, ethics, and integrity. They expect applicants to have recent exposure to their prospective field of choice, a demonstrated desire to help others, and the ability to work effectively in teams. Experiences acquired through shadowing, volunteering, clinical research, leadership roles, jobs, and internships demonstrate an applicant's commitment, dependability, intellectual curiosity, empathy, resilience, and communication skills. Get involved in activities you are passionate about, even if they are not health related. Professional schools are looking at who you are and what makes up your personality, values, and interests. As you choose which activities to participate in, consider that some of your experiences at Rice may have a profound influence on your life beyond admission to a professional school.

Clinical Experience

It is never too early to start gaining clinical experience. While there is no set number of required hours, some clinical experience is absolutely necessary for students to learn about health care and to show commitment to a career in the field. Shadowing a physician or dentist demonstrates that the student has taken the initiative to gain first-hand experience in the field in which they intend to work. Direct interaction with patients through work or sustained volunteering in a hospital or clinic is also very helpful. Even students with strong grades and recommendations are sometimes not admitted to medical or dental school if they have had no contact with patients and physicians or dentists in the years immediately prior to applying.

Clinical experience can be obtained different ways. Students can e-mail a physician or dentist in a small practice and ask if they have space and time available for a student observer. A good place to start is often with a student's own physician or dentist. At large hospitals, like those in the Texas Medical Center, students must apply for the opportunity to observe a physician. It may take several weeks to submit and process all of the application materials, including a background check and vaccination record, so students should begin preparing to apply well in advance of when they want to begin. Rice also offers a course through the OAA, UNIV 330, in which pre-medical students can obtain credit hours while shadowing physicians.

Community Service and Leadership

Medical and dental schools value empathetic and altruistic applicants. Service to the community demonstrates dedication to making a positive difference in the lives of others. Furthermore, these activities create opportunities to gain knowledge about social and cultural factors that affect interactions and behavior, cultivate ethical and moral reasoning, and work collaboratively with people from diverse backgrounds. Again, there is no set number of hours required, and not all service needs to be related to health care. Students should invest in activities and causes that they care about and which reflect their unique interests.

The Center for Civic Leadership (CCL) offers a range of programs in which students can volunteer, develop their capacities for community-based leadership, and address real-world problems. Additionally, Rice's residential college system affords ample leadership opportunities, and there are more than 200 student organizations in which you can be involved. If you are curious about organizations related to health care and health professions, you can begin with the Rice Pre-Medical or Pre-Dental Society. For a full list of Rice student organizations, click here.

Research

Though not a required component of a successful application, undergraduate research is one of many worthwhile activities in which a student might choose to engage. Undergraduate research can help students develop their critical thinking and communication skills, and health profession schools value the experience gained from a sustained commitment of a year or more. Note that it is not necessary to conduct research in basic or applied sciences; there are opportunities for scholarly research in all disciplines, so select a field that piques your intellectual curiosity.

Obtain research experience by contacting a faculty member directly about volunteering in their lab. Students typically begin with professors at Rice, but many research opportunities exist in the Texas Medical Center as well. In either case, most labs have a website describing their work. Students can e-mail their résumé to faculty members and request a meeting to discuss their current research agenda.

Once they have secured a position, students can earn credit hours for undergraduate research in most disciplines. For example, the BIOS 310 website provides tips for students seeking research opportunities in BioSciences and explains the process for obtaining credit. Although they are not expected to publish their work, the annual Rice Undergraduate Research Symposium is a great opportunity for students to present

their projects. Students with significant dedication to research may desire to complete a senior thesis in their major and/or apply for Distinction in Research and Creative Work, which is granted at commencement.

Medical and Dental Scientist Training Programs

Medical and dental scientist training programs (often referred to as MD/PhD or DDS/PhD programs) prepare students to bridge the gap between basic science and the practice of medicine. Many of these programs are funded by the National Institutes of Health (NIH). Graduates of combined MD/PhD or DDS/PhD programs often go on to become faculty members at universities and research institutes. While they still practice patient care, they spend most of their time conducting research in order to advance knowledge and develop new treatments for diseases. MD/PhD, DO/PhD, DMD/PhD, and DDS/PhD programs also exist outside of the NIH-funded physician-scientist program.

These programs admit a select group of exceptional students who possess superior research and academic potential, and it is a highly competitive process. It is desirable for applicants to have more than a year of significant research experience under the same mentor, as well as presentations and/or publications of their work. Applicants must request individual letters of support from each of their research mentors, and they are required to submit additional essays stating their reasons for pursuing a combined degree and describing their research experiences.

The Application Process

The Open File Process and Health Professions Advising Committee (HPAC)

Each year in early November, the OAA invites students applying to medical and dental schools in the upcoming cycle to participate in the “Open File” process. The OAA provides detailed information regarding the common application services and the Health Professions Advising Committee (HPAC). Students who elect to open a file with the OAA are expected to provide extensive documentation of their accomplishments for the creation of an HPAC letter of evaluation. They receive resources to assist with providing documentation and producing a stronger application.

The HPAC is composed of the advisors in the OAA as well as faculty members representing each division of study. Their role is to write a detailed letter of evaluation that best represents each student’s candidacy for admission and provides an integrated institutional perspective on a student’s readiness for graduate study and a future career in health care. The OAA also manages the receipt of all individual letters of support requested by students, and ultimately submits a complete packet, including the HPAC letter, to the common application services to accompany each student’s application.

This is an optional service, but has been a Rice tradition for over 25 years, and an overwhelming majority of Rice students elect to do Open File. Students are welcome to forgo the Open File process and HPAC letter and instead have their individual letters of support submitted directly to the application services. Note that many medical schools across Texas and the U.S. expect Rice applicants to have the HPAC letter, so not having it will likely raise an eyebrow.

Common Application Services

The application process officially begins when a student starts to complete the web-based common applications to professional schools. They are as follows:

- AMCAS – American Medical Colleges Application Service

- TMDSAS – Texas Medical and Dental School Application Service
- AACOMAS – American Association of Colleges of Osteopathic Medicine Application Service
- AADSAS - Associated American Dental Schools Application Service

AMCAS and TMDSAS are both common application services for allopathic (MD) medical schools. TMDSAS applies only to Texas public schools and as of 2021, Baylor College of Medicine as well. (TCU/UNTHSC is a private institution in Texas that uses AMCAS). AACOMAS is the central service for osteopathic (DO) schools, and AADSAS is for dental schools. Most of the allied health professional schools also use a centralized application service. Please see an advisor in the OAA if you have further questions.

Students are responsible for submitting their primary application materials to one or more of these services. This includes academic and biographical information, course work, employment and co-curricular activities, and essays. Official transcripts, standardized test scores, and letters of evaluation must also be requested and released to the application service as part of the application process. Each service provides a detailed instruction manual for completing their application, and application service staff is readily available to answer any questions. Once an application has been processed and verified as complete, it is transmitted in its entirety to the specific professional schools selected.

Deciding Where to Apply

The decision of which professional schools to apply to should be based on a student's unique goals and interests. There are numerous factors to consider, so you will want to start investigating schools several months before you begin your application.

For most applicants, the highest likelihood of acceptance is at public schools within the state where you have legal residence (your "home state"). Therefore, this is a good place to start forming your list. Identify the mission and curriculum of each program and assess whether your goals align with the institution. Gather information about the location of the school as well as the size and demographics of the campus community. Review the published GPA and MCAT scores for each school, and select a mix of schools with median scores higher, on par with, and lower than yours. Finally, you should weigh not only the cost of attendance, but also the potential cost of applications (including application fees, costs associated with interviewing, acceptance deposits, etc.).

Each February, the OAA hosts a Health Professions Fair where students can speak with admission counselors from a variety of professional schools. The following resources can also help you get a sense of each school and what they have to offer.

- MD Schools - Medical School Admission Requirements (MSAR)
- DO Schools – Choose DO Explorer
- Dental Schools - ADEA Official Guide to Dental Schools

Texas Residency

Many states have policies governing the proportion of in-state to out-of-state applicants that may be admitted to their public colleges and universities, which includes medical schools. In Texas, TMDSAS uses information provided in the application to make an initial determination about residency and places the applicant in the appropriate pool: resident vs. non-resident. Determining residency for the applicant pool is different than determining residency for tuition, voting, or taxing purposes. For more information about determining and establishing residency in Texas, visit the TMDSAS Residency page. The OAA is not able to answer questions about Texas residency; we encourage you to direct questions about residency to TMDSAS at info@tmdsas.com.

Individual Letters of Support

Medical and dental schools consider letters of support critical when evaluating applicants. Typically, students request letters from three or four individuals, including at least one science professor, a major subject-area professor, and another mentor/advisor. The ideal combination of letter writers will vary by applicant. Identifying the best writers for a particular student is dependent on having a network of individuals who know you well through your courses and clinical, volunteer, leadership, and research activities. Begin developing relationships early in your undergraduate career with professors and mentors who could provide a strong letter on your behalf. Bear in mind their familiarity with you is generally more important than the prestige of their position.

To successfully request and obtain strong letters of support, provide your prospective letter writers with adequate notification and appropriate supporting documents, including an unofficial transcript, curriculum vitae, draft personal statement, and waiver form (provided electronically by the OAA). Science professors, in particular, receive many requests for letters of support, and to write a thoughtful letter takes substantial time. After letters are completed and submitted, you should send thank you notes and updates on the progress of your admission to your letter writers.

As mentioned before, the OAA acts as an intermediary in the letter process for students who have opened a file. After all letters requested by students are received by the OAA, they are submitted along with the HPAC letter to the common application services. To learn more about how Rice will support you through a committee letter, visit our Open File webpage.

Personal Statement

Applicants are required to submit a personal statement, limited to 5300 characters (including spaces), that distinguishes themselves from other applicants. The applicant's passion and commitment to becoming a physician or dentist should be evidenced in the essay by academic, clinical, volunteer, and personal experiences. The writing process necessitates several rounds of significant revision, so do not delay in drafting your statement. The Center for Academic and Professional Communication (CAPC) offers workshops and one-on-one consultations to provide students with feedback on their personal statements.

Reporting Student Conduct or Honor Code Violations

By entering Rice University, students agree to behave in ways that are respectful of others in the community, maintain an atmosphere conducive to learning and scholarship, and adhere to the policies outlined in the Student Handbook and Honor Code. Similarly, medical and dental schools expect good judgement, honesty, and integrity in their applicants. Students found responsible for behavior that violates these standards and expectations will be held accountable by Rice. Applicants must report any institutional action, even if such action did not interrupt enrollment. Underage drinking, plagiarism, or other conduct issues can all make admission to a professional school more difficult.

While it is best not to have any infractions to report, having an infraction on your record will not necessarily bar you from professional school. Health profession schools will want to know that you take responsibility for your mistakes and that you have learned from your lapse in judgement. Full disclosure will enable the schools to more effectively evaluate this information within the context of your credentials. If you are in doubt about whether to report an offense, meet with an OAA advisor to discuss the details. OAA advisors can help you understand how to present your infraction honestly and appropriately.

Secondary Applications

Medical and dental schools commonly request supplemental information from applicants after the primary applications. A set of school-specific essays and an additional application fee usually comprise the secondary application. Some schools send invitations to all students applying to their school, other schools only send invitations after reviewing the primary application, and some schools do not have a secondary application at all. Applicants must check with each school for their policy.

It takes a significant amount of time to prepare customized responses to secondary application prompts like "Why are you interested in applying to our school?" Applicants should not procrastinate on drafting responses to these kinds of questions. It is recommended that you individualize your responses to reflect the mission and values of each school to demonstrate your interest in their program. It is also best to submit secondary applications as soon as possible, preferably within two weeks of receipt.

Interviews

Among the most important aspects of the application process is the interview. The principal goal is to determine if an applicant possesses the necessary attributes outside of academics to succeed in health profession school and clinical practice. Interviewers want to determine an applicant's "fit" with the school. For students, interviews present an opportunity to add a personal dimension to the application, ask questions, and tour the campus. This is also a great opportunity for the applicant to determine if the school is a good "fit" for them. Take notes during the interviews to help with your potential decision in the future.

There are different kinds of interviews, such as standard one-on-one interviews or multiple mini interviews (MMIs). After identifying the interview format for each school, applicants should take appropriate steps to prepare and practice answering possible interview questions. This includes researching each school and reviewing the materials submitted in their application. Applicants should also be able to converse about current issues and trends related to health care.

The Rice Pre-Medical Society and Rice Pre-Dental Society coordinate mock interviews in the spring semester to help Rice applicants learn what to expect during an interview, practice interviewing, and reduce feelings of nervousness. The Center for Career Development (CCD) and Center for Academic and Professional Communication (CAPC) also offer mock interviews at any time.

Financing Your Medical/Dental Education

The cost of a medical or dental education depends on many factors, and students rely on a variety of means to finance their educations such as grants, scholarships, and loans. Students should consider how they will pay for health profession school while they are preparing for the application process.

The AAMC's FIRST (Financial Information, Resources, Services, and Tools) program provides information on student debt management specifically for medical students. Texas has the Joint Admission Medical Program (JAMP), for economically disadvantaged students from Texas who want to go to medical school, and Rice's JAMP info can be found at https://oaa.rice.edu/jamp.

The ADEA website features financial planning resources for dental students at Money Matters: http://www.adea.org/GoDental/Money_Matters.aspx. Further information is offered by the ADA: http://www.ada.org/en/education-careers/dental-student-resources/financial-resources-for-students-and-recent-gradua.