



SOUTHWESTERN  
ADVENTIST UNIVERSITY

# PRE-MEDICAL *and* PRE-DENTAL PREPARATION HANDBOOK

Preparing for medical or dental school is more than taking the right courses and earning the right grades. Students have many other things they must consider during their undergraduate career. Admissions committees evaluate candidates based on a whole-person approach. While GPA and test scores are critical, extracurricular activities such as hobbies, clinical experience, and community service are also important. Consider the following questions as you prepare for medical or dental school:

### Will my application show that I ...

- **am able to handle the rigorous academics of medical school?**
- **understand the nature and requirements of being a physician/dentist?**
- **care about people and have a desire to help those in need?**
- **can pursue my career while maintaining a balanced life?**

Most students who attend medical or dental school are science majors, but there is no preference given to one major over another. Strong candidates demonstrate competence in their basic science courses and prerequisites, but also challenge themselves with advanced courses and rigorous course loads.

# WHAT YOU NEED TO KNOW

## PREREQUISITE COURSES

All medical schools have prerequisite courses they require applicants to take before matriculation. These courses are selected to prepare students for the Medical College Admission Test (MCAT) and Dental Admission Test (DAT) as well as the courses in the medical or dental school curriculum. Most schools require a common set of courses. Academic advisors will help students incorporate these courses into their degree plan. However, students should consider all the schools they might want to attend and make sure their undergraduate coursework aligns with the requirements for all of the programs they plan to apply to.

REQUIRED COURSES	CREDITS
<b>General Biology I &amp; II</b>	8 hours ( <i>one year with labs</i> )
<b>Upper Division Biology Courses</b> Choose from the following courses: <ul style="list-style-type: none"><li>• <i>Genetics</i>*</li><li>• <i>Cell &amp; Molecular Biology I</i>*</li><li>• <i>Cell &amp; Molecular Biology II</i></li><li>• <i>Human Physiology</i></li><li>• <i>Microbiology</i>**</li><li>• <i>Immunology</i></li><li>• <i>Histology</i></li></ul>	3–6 hours * <i>these courses are highly recommended</i> ** <i>this course is required by most dental schools</i>
<b>General Chemistry I &amp; II</b>	8 hours ( <i>one year with labs</i> )
<b>Organic Chemistry I &amp; II</b>	8 hours ( <i>one year with labs</i> )
<b>Biochemistry I</b>	3 hours ( <i>one semester, lab not required</i> )
<b>General Physics I &amp; II</b>	8 hours ( <i>one year with labs</i> )
<b>Statistics or Biostatistics</b>	3 hours ( <i>one semester</i> )

## RECOMMENDED COURSES

*(\*may be required by some schools)*

<b>General Psychology</b>	3 hours ( <i>one semester</i> )
<b>Introduction to Sociology</b>	3 hours ( <i>one semester</i> )
<b>History &amp; Religion</b>	These courses will be obtained under the university's general education requirements.

A female student with brown hair tied back, wearing a white lab coat, safety goggles with green straps, and blue nitrile gloves. She is focused on her work in a laboratory setting, with various pieces of equipment like a scale and beakers visible in the background. A vertical red line is on the left side of the image, ending in a small square icon.

**MAKE YOUR PLAN**

**Earning a  
competitive GPA  
begins on day one  
of freshman year.  
Every course  
counts!**

## **GPA**

Medical and dental schools calculate GPA in two ways: overall GPA and science GPA. The science GPA carries more weight because it better indicates a student's ability to succeed in rigorous medical/dental school courses. A GPA of 3.7 is an accepted average, though a higher GPA is a more competitive one. Earning a competitive GPA begins on day one of freshman year. Every course counts!

## **ADMISSION TESTS FOR PROFESSIONAL SCHOOLS**

Students seeking to pursue medicine in MD or DO programs must take the **MCAT**. This exam tests students' knowledge in four basic areas:

- Chemical and Physical Foundations of Biological Systems
- Critical Analysis and Reasoning Skills
- Biological and Biochemical Foundations of Living Systems
- Psychological, Social, and Biological Foundations of Behavior

Students seeking to attend dental school should take the **DAT**. This exam tests students' knowledge in the following areas.

- Survey of the Natural Sciences
- Perceptual Ability
- Reading Comprehension
- Quantitative Reasoning

It is recommended that students complete the following courses before taking either the MCAT or DAT:

### **MCAT**

- General Biology I & II
- General Chemistry I & II
- Organic Chemistry I & II
- Biochemistry I
- General Physics I & II
- Genetics
- Cell and Molecular Biology I
- General Psychology
- Introduction to Sociology

### **DAT**

- General Biology I & II
- General Chemistry I & II
- Organic Chemistry I & II

Typically, the MCAT or DAT is taken during the summer between the junior and senior years. It should be taken by the end of August the year you are submitting your application. Schools will typically accept exam scores from 3-5 years prior to admission.

## APPLICATION

Students applying for medical or dental schools in Texas should complete an application from the Texas Medical and Dental Schools Application Service (TMDSAS). This application can be completed by both Texas residents and non-residents. The TMDSAS application opens on May 1 and the submission deadline is November 1. Keep in mind that early submission is highly recommended. Individual schools may have different submission deadlines, so be sure to check the application deadlines for all schools you plan to apply to.

Students applying to medical schools outside of Texas will complete an application from the American Medical College Application Service (AMCAS). This application opens in early May and submission deadlines vary by medical school. Deadlines typically fall between September and December. Be sure to check the application deadlines for all schools you plan to apply to. Keep in mind that early submission is highly recommended.

Students applying to dental schools outside of Texas will complete an application from the ADEA Associated American Dental School Application Service (ADEA AADSAS) The application opens in early May. Each dental school establishes its own deadline date which ranges from September to February. Be sure to check the application deadlines for all schools you plan to apply to. Keep in mind that early submission is highly recommended.

## CLINICAL EXPERIENCE

Medical or dental school is an enormous commitment in many ways: financial, time, energy and effort. Because of the magnitude, it is important that students who enter these programs have a solid understanding of what the career will entail. Experience in healthcare settings is vital to attaining this understanding and the more one has, the clearer the profession and the variety within it will become. Clinical experience can be obtained in a variety of ways. Speak with the STEM Graduate Placement Advisor for more information on the options below.

- Shadow a physician/dentist in fields you are interested in.
- Become a medical scribe.
- Become a dental assistant.
- Work in fields such as medical laboratory science, certified nursing assistant (CNA), respiratory therapy, medical assistant, EMT, or nurse.





**DON'T MISS THIS**

**Experience in healthcare  
settings is vital.**

## OTHER EXPERIENCES

Medical and dental schools often take a holistic approach in their selection process. In terms of experience, this means that their top candidates not only show competence in their academic performance, but also engage in activities that make them well-rounded, balanced individuals. Admissions committees will consider things like family history, extracurricular activities, research, leadership roles, and community service.

**Community service** is an important aspect of experience that will be considered. A major goal of medicine is to help people and serve the community. Medical schools want to see candidates who demonstrate a passion for serving others in whatever form that may take. This experience doesn't necessarily have to be in a clinical setting, but can extend into other areas of interest. Reasonable options include volunteering at an animal shelter, a food bank or homeless shelter, a church, special programs for children or adults, in a park or nature facility, or participating in mission trips. Volunteering on a weekly or monthly basis over a long period (a year or two) is an opportunity to demonstrate commitment and consistency/reliability to an admissions committee.

**Research** is an excellent way to make your medical or dental school application more competitive. Doing research refines skills including literature analysis, data analysis, writing, organization, and more. Additionally, students who participate in research gain unique perspectives and experience in identifying and investigating problems. These skills are valuable! If you are interested in doing research, speak with your advisor. He or she can help you identify areas of interest and find research internships to participate in.

## LETTERS OF RECOMMENDATION

Generally, most schools recommend either one committee letter or three individual letters of recommendation, at least one of those coming from a science professor who has taught the student. Some will accept up to five letters, but each program determines its minimum and maximum requirements.

The Pre-Professional Committee at SWAU will construct a letter of recommendation based on observations by faculty from the Biological Sciences, Biochemistry, Chemistry and Physics, and Mathematics departments. Please notify the chair of the Pre-Professional Committee of your request by April of the year you are planning to submit your application.

Loma Linda University has more specific recommendations regarding letters of recommendation.

1. Committee letter (preferred) or science professor who has taught the student
2. Physician/dentist the student has shadowed
3. Employer
4. Pastor or volunteer leader



**THIS IS SO TRUE** □

Research is an excellent way to make your medical or dental school application more competitive.



# TIMELINE OF

## YEAR 1

- Maintain a high GPA.
- Find shadowing opportunities.
- Attend events advertised to pre-med/pre-dent students to learn more about schools, resources, and requirements.
- Find a community service/volunteer organization to participate in regularly.

### SUMMER

- Shadow or scribe/dental assistant
- Volunteering/community service

## YEAR 2

- Continue to shadow or scribe/dental assistant
- Continue volunteering/community service.
- Begin to research medical schools.
- Research applications (AMCAS, TMDSAS, ADEA AADSAS).
- Begin to budget for test preparation (MCAT, DAT, etc.), test fees, and application fees.
- Attend events advertised to pre-med/pre-dent students to learn more about schools, resources, and requirements.
- Consider a research project. Work with your academic advisor to find opportunities you are interested in.

### SUMMER

- Shadow/scribe/dental assistant or research



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# ACTIVITIES

## YEAR 3

- Continue to shadow or scribe/dental assistant
- Continue volunteering/ community service.
- Participate in research if desired.

### FALL SEMESTER

- Research options for MCAT/ DAT preparation
- Arrange a one-on-one meeting with the admissions representatives from Loma Linda University.
- Consider a research project. Work with your academic advisor to find opportunities you are interested in.

### SPRING SEMESTER

- Schedule MCAT/DAT for summer.
- Begin MCAT/DAT preparation.
- Begin your application (AMCAS, TMDSAS, ADEA AADSAS).
- Request letters of recommendation. For a recommendation from the Pre-Professional Committee, submit your request to the chair by April.

### SUMMER

- Continue MCAT/DAT study.
- Take the MCAT/DAT before the end of August.
- Submit applications.
  - » Deadlines vary by school and application. Early submission is always recommended.

## YEAR 4

- Continue to shadow or scribe.
- Continue volunteering/ community service.

### FALL SEMESTER

- Submit applications.
  - » Deadlines vary by school and application. Early submission is always recommended.
- Arrange a one-on-one meeting with the admissions representatives from Loma Linda University.
- If applicable, submit secondary applications (deadlines vary by school).
- Send thank-you notes to letter writers.

### SPRING SEMESTER

- You will be notified of acceptance/denial/ waitlist by March.
- Notify the Biological Sciences department of outcomes.
- Follow any further steps given to you by medical/ dental schools.



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Knowledge. Faith. Service.

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