

Exploring pathways
and professions within
healthcare

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PRE-HEALTH PROFESSION AND ACADEMIC GUIDEBOOK

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Welcome and Introduction

Welcome! This guidebook is designed as a comprehensive resource for pre-health students at the University of Louisville. Compiled by the [Health Science Center Office of Diversity and Inclusion at the University of Louisville](#), this guidebook aims to assist pre-health students at the University of Louisville in exploring some of the many professions and their pathways within the health sciences.

The HSC Office of Diversity and Inclusion places a major emphasis on increasing the number of students from racial/ethnic groups designated as underrepresented into the health professions system. Emphasis is also given to recruiting, retaining and promoting a diverse workforce here at the Health Sciences Center for our schools of dentistry, medicine, nursing, and public health.

Our hope is that this resource empowers pre-health students to feel confident, prepared, and successful in all their healthcare endeavors. Should you have comments or questions about our diversity efforts or this guidebook, please send feedback to the author directly or at hscodi@louisville.edu.



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She and her partner recently moved to Louisville from Columbus, OH, where she graduated Summa Cum Laude from The Ohio State University and previously worked in K-12 education. Outside of work, she loves to read, knit, and spoil her small dog, Tobie. You can find her in the “garden” (basement) level of Gardiner Hall, in room 07D.

The Basics: Applying to Health Professional School

Health professional school is a big step! Depending on the type of health professional program you wish to attend, requirements may differ. Always check with the programs you are interested in to confirm dates, deadlines, and application/admissions requirements.

1. Introduce yourself to faculty, staff, and program directors of pre-health programs and studies.
2. Take all pre-requisite classes.
3. Take the required standardized test (i.e., DAT, MCAT, PCAT, GRE, etc.), if applicable.
4. Gather letters of recommendation for submission to health professional school.
5. Shadow a professional from local societies/chapters.
6. Decide and/or plan a gap year, if applicable.
7. Apply to the health professional school program(s) of your choice.
8. Receive acceptance letters.

Common Required Application Materials

1. An application, typically either within a Centralized Application System or through the college/university;
2. A personal statement;
3. Transcripts from all colleges/universities attended;
4. Standardized Test Scores (i.e., GRE, MCAT, DAT, PCAT, etc.);
5. Letters of recommendation from professors, advisors, clinical faculty, etc.;
6. Highlight activities and community service experiences
7. *Talk interviews, background checks, and other materials specified by the application.
 - a. *Not all programs will require interviews, but many use the talk interview to gather a complete picture of any one applicant.
Background checks may be collected from applicants if specified in the application materials.

Holistic Review

Holistic review is an admissions process that “considers each applicant individually by balancing their academic metrics with experiences and attributes.” These factors are viewed in combination to consider how an individual might contribute value not only as a student, but also as a future professional. Nearly all professional schools report using some elements of holistic review.¹

This review process considers applicants’ experiences, attributes, and academic metrics as well as the value an applicant would contribute to learning, practice, and teaching. Holistic Review allows admissions committees to consider the “whole” applicant, rather than disproportionately focusing on any one factor. The AAMC (Association of American Medical Colleges) has outlined four core principles of holistic review:²

1. Applicant selection criteria are broad, clearly linked to school mission and goals, and promote numerous aspects of diversity as essential to excellence.
2. Selection criteria include experiences and attributes as well as academic performance. These criteria are:
 - a. Used to assess applicants’ unique backgrounds with the intent of creating a richly diverse interview and selection pool and student body,
 - b. Applied equitably across the entire candidate pool, and
 - c. Supported by student performance data that show that certain experiences or characteristics are linked to that individual’s likelihood of success as a student and/or physician.
3. Schools consider each applicant’s potential contribution to both the school and the field of medicine, allowing them the flexibility to weigh and balance the range of criteria needed in a class to achieve their institutional mission and goals.

¹ <https://leader.pubs.asha.org/doi/10.1044/leader.ssay.23112018.34>

² <https://www.aamc.org/services/member-capacity-building/holistic-review>

The American Dental Education Association (ADEA) provides similar feedback regarding holistic review. Among others, ADEA notes several traditional and nontraditional criteria used to assess applicants' qualifications for health professional school: ³

Traditional criteria

- Standardized test scores and
- Grade point average.

Nontraditional criteria

- Linguistic or cultural experience (or both),
- Demonstrated commitment to community service,
- Specific career interests, such as plans to practice in underserved communities and
- Life experiences, such as personal, familial, or other challenges overcome.

Mission-Based Admissions

Some health professional schools use mission-based admissions, which means that a school's admissions criteria, policies, and procedures align with its mission and goals.

For example, one medical school might seek students interested in providing care in rural areas, while another medical school might seek students with an expressed interest in urban environments. One pharmacy school's mission might emphasize research, while another might emphasize the study of healthcare administration.

A medical school's mission statement can be found at the [Medical School Admissions Requirements® \(MSAR™\)](#) website. Other health professional schools, such as dentistry and pharmacy, post their school's mission statements on the

³ <https://www.adea.org/HolisticReview/About.aspx>

program website. Many programs, regardless of health profession, advise their applicants to carefully choose their degree program based upon factors that are important to one's own learning and career needs.

By reading these statements, health professional students can figure out if a school's goals align with their own. You can use this information to prepare your application and help you highlight through your personal statement and interview how your experiences make you a good fit for a particular institution.

Tip: Matching a school's mission statement to your own will make you a more competitive applicant for any program.

Standardized Testing

A *standardized test* is a test that is administered and scored in a consistent, or "standard", manner. Standardized tests will usually require specific conditions for administering the test, and all exams distributed within a specific condition set will contain the same questions, scoring procedures, and interpretations to ensure consistency among students. However, it is important to note standardized tests typically do not reuse their question pool. Standardized exams do, however, aim to ensure all questions asked are of a similar difficulty level.

Most health profession programs require applicants to submit scores from a standardized test. They use this information to get some indication of an applicant's verbal, quantitative, analytical, and reasoning skills. For profession-specific tests, such as the MCAT (Medical College Admission Test) or the DAT (Dental Admission Test), the specific standardized exam serves to prove familiarity with knowledge and subject matter professionals in their field have identified as key to success in their respective professions.

Many, if not all standardized exams offer free or low-cost resources to aid in preparing for the exam. The University of Louisville's [Resources for Academic Achievement \(REACH\)](#) office offers several workshops including [free test prep](#)

seminars for graduate and professional schools. Free exam prep sessions offered include the GRE and the MCAT, and UofL students receive additional exclusive discounts on test prep materials and courses through The Princeton Review®.

Common Standardized Tests for Pre-Health Students:

- CASPer
- The Dental Admissions Test (DAT)
- The GRE General Test
- The Medical College Admissions Test (MCAT)
- The Optometry Admissions Test (OAT)
- The Pharmacy College Admissions Test (PCAT)

CASPer

CASPer® is a selection tool used by academic programs to help assess applicants for non-academic attributes, or people skills. Commonly used in Canadian schools, many medical and dental schools in the United States are now beginning to utilize the assessment tool for their admissions processes.

CASPer is a form of situational judgment test, a type of psychological test that presents the test-taker with realistic, hypothetical scenarios and may ask the individual what they would do in the dilemma and why they would do it.

Situational judgment tests tend to determine behavioral tendencies, assessing how an individual will behave in a certain situation, and knowledge instruction, which evaluates the effectiveness of responses. CASPer is run and developed by Altus Assessments Inc. The test aims to encompass the following social skills:

- Collaboration
- Communication
- Empathy
- Equity
- Ethics

- Motivation
- Problem Solving
- Professionalism
- Resilience
- Self-Awareness

The CASPer test takes approximately 100 minutes (about 1 and a half hours), which includes the introduction, about 75 minutes of questions, and an optional 10-minute break at the halfway point (after six sections).⁴

CASPer is often used by academic programs alongside other metrics such as GPA and other standardized test scores to obtain a more reliable and meaningful assessment of applicants' personal competencies. Most programs will not solely base their admissions decisions on CASPer. The test aims to help academic programs select applicants with the highest potential for success and ensure a diverse group of students is selected to reflect the increasing diversity of the patient population.

The DAT

The [Dental Admission Test \(DAT\)](#) is a standardized, multiple-choice test (presented in the English language) used to inform admissions decisions at dental schools across the nation. The DAT measures academic ability, scientific understanding, and perceptual ability. The exam is designed to provide dental education programs with a means to assess program applicants' potential for success. While all dental schools require applicants to participate in the DAT Program, DAT results are just one factor considered in evaluating applicant admission potential.

⁴ <https://takecasper.com/faq/>

The DAT is comprised of four sections:

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

It is recommended that you do not take the DAT until you have completed your prerequisites in biology, general chemistry, and organic chemistry. Most of those who take the DAT do so after their third year of college, and at least one (1) year before the student plans to attend dental school.

The GRE

The GRE® General Test is a computer-delivered test that measures your verbal reasoning, quantitative reasoning, critical thinking, and analytical writing skills — skills that have been developed over a prolonged period and are not related to a specific field of study but are important for all demanding graduate school programs. The GRE features question types that closely reflect the kind of thinking and skills needed to succeed in graduate school. The design lets test takers skip questions within a section, go back and change answers, and choose which questions within a section they want to answer first. The GRE is comprised of three test sections: ⁵

- Analytical Writing
- Verbal Reasoning
- Quantitative Reasoning

The GRE General Test is offered year-round at home and at test centers around the world. Most GRE test-takers take the exam at least one (1) year before they plan to attend graduate school.

⁵ https://www.ets.org/gre/revised_general/about/content

The MCAT

The Medical College Admission Test® (MCAT®) is a standardized, multiple-choice, computer-based test that has been a part of the medical school admissions process for more than 90 years. Nearly all medical schools in the United States and several in Canada require MCAT scores, and many health professional schools and graduate programs now accept MCAT scores in lieu of other standardized tests. The content is divided into four sections:

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

The AAMC develops the MCAT exam and administers it multiple times each year, from late January through September, at hundreds of test sites throughout the United States and Canada and in select locations throughout the world.⁶

The OAT

The Optometry Admission Test (OAT) is a standardized, multiple-choice test (presented in the English language) used to inform admissions decisions at optometry schools across the nation. The test is developed according to established test specifications set by the Association of Schools and Colleges of Optometry (ASCO).

The OAT aims to measure general academic ability and comprehension of scientific information. The exam is designed to provide optometry education programs with a means to assess program applicants' potential for success. All optometry schools require applicants to take the OAT; however, OAT results are

⁶ <https://students-residents.aamc.org/choosing-medical-career/what-you-need-know-about-mcat-exam>

just one factor considered in evaluating applicant admission potential. The OAT is comprised of four sections:

- Survey of the Natural Sciences
- Physics
- Reading Comprehension
- Quantitative Reasoning

Most of those who take the OAT do so after their third year of college, and at least one (1) year before the student plans to attend optometry school.

The PCAT

The [Pharmacy College Admissions Test \(PCAT\)](#) is currently required by several colleges and schools of pharmacy. The PCAT is designed to evaluate the abilities, aptitudes, and skills deemed essential by pharmacy colleges to assist in predicting success in science-oriented courses and pharmaceutical education.

The PCAT is comprised of five (5) sections:

1. Writing (30 minutes, 1 prompt)
2. Biological Processes (45 minutes)
3. Chemical Processes (45 minutes)
4. Critical Reading (50 minutes)
5. Quantitative Reasoning (50 minutes)

Total Test (220 minutes, about 3 and a half hours): 192 multiple-choice items, 1 writing prompt

While requirements for specific pharmacy programs may vary, most PCAT test takers sit for the exam either before or during the application season for pharmacy graduate programs. For most students, this means taking the PCAT during their senior year of their undergraduate degree program, or one (1) year before they anticipate attending pharmacy school.

Transcripts

One predictor utilized to indicate success in health professional school is an individual's undergraduate grade point average (GPAs). Each health professional school may look at applications differently, however, most schools begin by looking at a student's cumulative GPA (the average GPA of all coursework a student has attempted over the course of their college career) and their BCPM GPA, which encompasses grades in biology, chemistry, physics, and math.

Application reviewers will want to know if students had a thesis (depending on program), minored/double majored in another area of study, or changed majors over the course of a student's college career. Many health professional schools will also look towards research experience and publications. This information gives reviewers insight into your academic journey. It is important to note that admission committees look at a student's progression throughout their academic career.

Students can absolutely succeed even with GPA stumbles, multiple major changes, and non-traditional education routes. In fact, non-traditional students tend to bring more work and life experience, skills, and maturity along with them, which are viewed positively! However, if a student has had consistent difficulty with science courses, it will be an area of concern for admissions departments; especially if a student has earned several C, D, or F grades. An inconsistent undergraduate or graduate record, numerous withdrawals, or transferring to several different colleges also raises concern. All of these factors are considered through the holistic review of an application.

Letters of Recommendation

It is vital that students aiming for further education build good relationships with their professors. A good letter of recommendation comes from a person who knows who you really are. It's good if a professor can write a letter stating that you got an "A" in their class, but can they say anything else about you?

You can get to know professors by attending office hours, volunteering in their research projects, or joining a club that they advise. Check with the schools you are applying to for their requirements of who they want the letters to come from—usually, they want to hear not only from your professors but also professionals that you have worked with.⁷

Applicants will want to pick recommenders who can endorse them as professionals and have spoken with the recommenders about the applicant's career interests. The recommenders should be able to share the qualities that would make you a good fit for the profession and reiterate why you should be selected for the program. Ideally, each recommender should be able to speak to different components of an applicant as an individual—helping to build a whole, composite picture of the applicant in many different environments, such as in academic versus in professional settings.

Many pharmacy degree programs require 1-4 letters of recommendation as part of the pharmacy admissions process, and some schools may require applicants to submit letters from particular individuals, such as a pharmacist, professor, or academic advisor. ADEA allows pre-dental students to submit up to four letters, and individual dental schools may also ask for additional letters of evaluation separate from the centralized application. Other health professional programs not named here have similar requirements.⁸

⁷ <https://www.avma.org/resources-tools/careers/veterinary-school-admission-101>

⁸ <https://louisville.edu/medicine/degrees/postbacpremed/applicant-information/the-admissions-process/denied-applicants>

Recommendations for people to ask include the following: professors, advisors, colleagues, supervisors, mentors, volunteer coordinators, clergy, or other professionals. It is advisable not to ask family members.

Personal Statement

Personal statements are the ideal place for applicants to set themselves apart from other candidates. As an applicant, you are the only person who has your unique story and journey. This portion of your application is your place to shine!

On your application, it is important to convey a full picture of who an applicant is, including the parts not related to healthcare. Your background, perspectives, and experiences matter in the decision-making process. Where have you come from to get to where you are now? What about you illustrates resilience, drive, passion, and commitment? ⁹

Students should strive to answer three questions in their personal statement: “Why do I want to do this as a career, and not another,” “why am I well suited for this career,” and “why am I applying to this school in particular?” ¹⁰

Regardless of your path, admissions officers are most interested in an applicant’s “why.” How are you planning to apply the passion and commitment of your “why” to the profession? How do you plan to use the lessons learned on your journey to “why” to become the best health professional you can be? A student’s “why” is critical to helping establish how a student will succeed in graduate school and contribute positively to their future patients and the health professional community.

⁹ <https://students-residents.aamc.org/choosing-medical-career/holistic-review-medical-school-admissions>

¹⁰ <https://students-residents.aamc.org/ask-experts/ask-experts-create-winning-application>

However, it must be cautioned that students should always tell the truth in their statements and are sure to mention activities and volunteer, research, or work experiences that are most important. These essays are vital to the application process and should be treated seriously—reviewers counsel, “These essays are not creative writing exercises. You may start off with a descriptive experience, but, move quickly into how and why you want to become a physician and how this experience helped determine that.”¹¹

It is also important that students proofread carefully. At the health professional level, there are no excuses for punctuation and grammatical errors. Not putting the correct school name in secondary materials is another surefire way to have your application thrown out.

Talk Interviews

Most health professional schools require a spoken interview, though the process varies by school. Nearly all health professions require an interview as part of their admissions process, including medical, dental, pharmacy, and other programs. Interviews can take place on or off-campus. They can be conducted by one admissions committee member, by multiple members of the committee, or by off-campus interviewers, such as practicing physicians. Generally, interviewers complete evaluations that are added to the rest of your application materials.¹²

Most people are nervous during interviews and that is to be expected. Interviewing allows programs to get to know their applicants better and allows the program and student to have a dialogue and learn more about the applicant’s academic performance, work ethic, and career intentions. Prior to the interview process, it is important for applicants to review their primary and secondary applications to their program(s) of choice. Interviewers often ask specific questions about an

¹¹ <https://students-residents.aamc.org/applying-medical-school/how-medical-schools-review-applications>

¹² <https://students-residents.aamc.org/applying-medical-school/applying-medical-school>

applicant's program material, and it is important for applicants to remain consistent, honest, and genuine within their responses.

The interview is your time to highlight your personality and illustrate that you are the right choice and can succeed in a competitive program of study.

If you share areas of weakness, it is always good to have a plan of action to improve in those areas. For example, if you are a chronic procrastinator, you want to share that you are working on managing your time better by being proactive (i.e., scheduling your study time or working part-time instead of full-time, etc.). Consider having a mock interview to practice with a professional or an objective person you trust.¹³

¹³ <https://louisville.edu/medicine/degrees/postbacpremed/applicant-information/the-admissions-process/denied-applicants>

Making the Most of Your Opportunities

Job Shadowing

If you have a relationship with your own doctor(s) or know any doctors personally, start by asking them. Networking is an important professional skill and will help you find professionals in your field; therefore, helping you to gain the experience important to the health professional admissions process. Do not be afraid to ask people if they know of any open positions. Research hospitals and universities in your area might be looking for lab technicians. Job opportunities are typically posted on the career pages of their websites.

You can also ask your teachers, professors, and pre-health or academic advisors if they know any doctors that other students have shadowed in the past.

If you are in college, leverage any relationships your school may have with a health professional school or hospital on campus. It is also okay to contact hospitals through their volunteer office or to search online for local doctors with specialties that interest you. Call their office or email them at least a few months before you would like to begin shadowing.

It is important that you express why you want to shadow this person specifically. Briefly tell them where you go to school, any medically related experiences you have had, and your goals. Be courteous and professional. Many doctors welcome opportunities to talk to students, so if you get turned down, ask other doctors.¹⁴ Persistence is key when looking for opportunities! Since practicing clinicians are often balancing numerous demands, it may take a few (2-3) times of outreach to get a response. This is typical, do not get discouraged! Continue to ask.

¹⁴ <https://students-residents.aamc.org/aspiring-docs-fact-sheets-get-experience/shadowing-doctor>

Becoming a Medical Scribe

A *medical scribe* is responsible for accurately documenting the interaction between a healthcare provider and their patients in real-time. Medical scribes can also expect to assist providers with administrative tasks such as handling phone calls, retrieving lab reports, and other duties as needed to improve efficiency and productivity.

Pre-health students can expect to get hands-on experience and clinical exposure working as medical scribes, in addition to other benefits (such as getting to meet and build relationships with hospital staff!)

[ProScribe](#) and [ScribeAmerica](#) are two scribe programs in the Louisville Area offering both part-time and full-time positions.

Find a Mentor

Mentors often serve as positive role models through sharing educational/professional experiences and networking opportunities with mentees. They are a great resource for advice, insight, and moral support to mentees just beginning in their careers.

Research Opportunities

Clinical medicine and research are partners in health care. Researchers play a vital role in seeking cures and treatments for various diseases and ailments. The physician serves as a facilitator to implement what research has discovered, such as a new treatment for patients. The [University of Louisville](#) has renowned researchers and numerous research opportunities taking place year-round. Many programs are offered [exclusively over the summer](#) for students looking to do work while off from the academic year. Some research opportunities are voluntary, and others are paid.

If there is a professor or doctor whose work is of interest to you, it is advised that you express your interest to them. Who knows, they may reach out to you if they

have an opening! Department bulletin boards and websites may additionally post opportunities for students to assist with faculty research projects. Express your interest to your science professors, academic advisor, and your pre-health advisor.

In addition, the [University of Louisville](#) helps in searching for jobs, building resumes, and providing interview tips and techniques.

Volunteering Locally

Any exposure to healthcare will be of considerable merit to admissions officers. Consider volunteering in your local community for a hospital or free medical clinic in the area. Students interested in dental school can volunteer in a free mobile dental clinic, and pharmacy students may look into becoming pharmacy technicians. There is always a need for someone to either assist the staff, comfort families, stock up medical supplies, transport patients, and much more.

It is important to note that volunteer positions in healthcare are not the only way an applicant can impress health professional schools. More than anything else, follow your passion for volunteering!

Your volunteering experiences should be a blend of experiences that you are passionate about and experiences that help you gain an understanding of your health professional school of choice. Health professional schools will be impressed by your dedication and passion for what you do, not only by what you are doing. Spending time tutoring underserved students, working at a domestic violence shelter, or cleaning up waterways can be just as influential and impactful on health professional school applications. Volunteer experience should be transformational and focused on serving others around you!

If you are interested in volunteering, here are some hospitals and healthcare opportunities in the Louisville metropolitan area to consider: ¹⁵

- University Hospital, 530 S. Jackson Street
 - Ms. Donna Stidham, Volunteer Coordinator, 502-562-3416 stidham@ulh.org
 - For an application, you may contact her or go to their [website](#).
- [Norton Children's Hospital](#), 231 E. Chestnut Street

¹⁵ <https://louisville.edu/medicine/degrees/postbacpremed/current-students/community-service-for-spring-2014/hospital-volunteer-opportunities>

- Volunteer Coordinator, 502-629-6122.
- [Norton Health Care](#), (Various Locations throughout Louisville)
- [Baptist Health Hospital](#)
- [KY One Health](#)
- [Wayside Christian Mission](#)

Gap Year Opportunities

Many graduate and health professional school applicants opt to take a “gap year” (or years) between the end of their undergraduate education and the start of health professional school. Although there are numerous reasons applicants take a gap year, many use this time to address the need for more time to participate in career-related volunteer and research experiences, strengthen GPA or standardized test scores, pay down debt, work on becoming a stronger candidate, or simply take a break. Some applicants must take a gap year if they are not accepted into health professional school. Whatever the reason, a gap year provides a good opportunity to leverage the time and make yourself a more competitive applicant.¹⁶

Do not be afraid of taking a gap year! Gap years are wonderful opportunities for an applicant to gain more medical experiences, improve their test scores, save up money for school, or simply to take a break before furthering their professional education. Well-planned and thoughtful gap years often make applicants more competitive for their schools of choice.

Resources at U of L

The University of Louisville has many opportunities for current students to prepare and apply for graduate school. As a student at UofL, you have free access to resources and appointments through the [University Career Center](#). The University

¹⁶ <https://students-residents.aamc.org/applying-medical-school/post-undergrad-getting-ready-medical-school-or-gap-year>

Career Center offers [services](#) aimed at helping students craft and perfect resumes, CVs, cover letters, and interview skills.

The [University Writing Center](#) is another valuable resource available to students at the University of Louisville. While not an editing service, they offer individual consultations to help students with their writing projects. They aim to work with your writing at any point in the writing process, from producing ideas when you are getting started to thinking about how best to revise a draft.

[Resources for Academic Achievement \(REACH\)](#) is another resource available to students. As UofL's centralized academic support unit, REACH offers several workshops including [free test prep seminars](#) for graduate and professional school. Free exam prep sessions offered include the GRE and the MCAT.

Competitive Candidates... ¹⁷ ¹⁸ ¹⁹

Demonstrate an ability to handle challenging coursework (not necessarily meaning a 4.0 GPA).

- Demonstrate excellence in upper-level math and science courses.
- Perform well on their standardized exam.
- Demonstrate exceptional personal initiative (i.e., leadership, creativity, research, community service, motivation).
- Seek out at least one year of exposure to clinical medicine and community service.
- Join a student career association related to their interest of study.
- Can effectively explain their experiences in the context of why they want to be a physician and describe their journey.
- Can effectively explain what drew them to their medical institution of choice (i.e., through the school's mission statement).
- Remember to have fun. All work and no play can actually make students less desirable candidates. Not all of courses and extracurricular activities should be 100% focused on meeting the admission requirements. Do the things you like, join the clubs you find fun, and enjoy your life.
- Focus on what makes *them* special.

Diversity and Professionalism

Schools and programs are always looking for diverse and unique health professional students who speak more than one language and understand the cultural backgrounds of patients. Diversity means more than simply including students from culturally and linguistically diverse backgrounds. Students who prove dedication and adaptability to other people and cultures are incredibly

¹⁷ <https://students-residents.aamc.org/applying-medical-school/how-medical-schools-review-applications>

¹⁸ <https://www.avma.org/resources-tools/careers/veterinary-school-admission-101>

¹⁹ <https://students-residents.aamc.org/ask-experts/ask-experts-create-winning-application>

valuable, even if they are not part of a minoritized group themselves (i.e., in actively supporting LGBTQ+ individuals, even as they themselves are not LGBTQ+ identifying).

Being of a minoritized group is not the only way that someone can represent diversity. Health professional schools also look for students who can “adapt” to cultural and linguistic differences and show professionalism in their conduct with all people. It is important to not be rude, presumptuous, or dismissive of other people, including reviewers and school staff. Patient care is vital to the health care industry, and health professional schools will not want to admit applicants who may potentially be rude, presumptuous, and dismissive of their future patients.

Students who impress reviewers with a love of challenge and change, who display professionalism in written communication or phone calls and visits, and who appear excited about the possibilities of new discoveries and diverse learning opportunities offer “adaptability.” These students prove that they can handle the challenges of caring for a diverse set of patients with grace. Applicants who offer a value in “adaptability” tend to move rapidly to the top of those who are accepted, even if their academics are not “perfect.”²⁰

²⁰ <https://leader.pubs.asha.org/doi/10.1044/leader.ssay.23112018.34>

15 Core Competencies for Entering Medical Students

- Service Orientation
- Social Skills
- Cultural Competence
- Teamwork
- Oral Communication
- Ethical Responsibility to Self and Others
- Reliability and Dependability
- Resilience and Adaptability
- Capacity for Improvement
- Critical Thinking
- Quantitative Reasoning
- Scientific Inquiry
- Written Communication
- Living Systems
- Human Behavior

Health Occupation Fields

Health occupation fields come in a variety of forms, many containing different scopes of practice and entry requirements. Each of the fields below will differ in details, but fields within a category will share similar educational paths, degrees of competitiveness, amounts of direct patient care, and levels of science/mathematics required.

These categories do not represent a hierarchy, and there are significant exceptions in each category.²¹

²¹ <https://nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Pre-Health-Advising.aspx>

| CAREER FIELD | DESCRIPTION | EXAMPLE PROFESSIONS |
|-------------------------|--|---|
| DIAGNOSING AND TREATING | ... entail direct patient care from exceptionally well-educated practitioners. These fields are usually highly selective/competitive, require significant levels of science/mathematics, require or prefer a completed bachelor's degree, and require a post-baccalaureate degree. | Include: dentists, optometrists, physicians, podiatrists, veterinarians, etc. |
| ALLIED AND ASSOCIATED | .. allied with or carry out prescribed treatments from diagnosing/treating professionals. These fields require well-educated practitioners and entail direct patient care, usually more hands-on work than in diagnosing/treating fields, and consequently require strong interpersonal skills. These fields are moderately to highly selective/competitive, require moderate to high levels of science/mathematics, and usually begin at the undergraduate level, but can extend to the doctoral level. | Include: nurses, dieticians, pharmacists, genetic counselors, etc. |
| REHABILITATING | ... entail direct, hands-on patient care from well-educated practitioners. They are usually moderately selective/competitive, but can be highly selective/competitive if the number of applicants far exceeds the number of | Include: audiologists, occupational therapists, physical therapists, |

| | | |
|------------------------------|---|--|
| | <p>available seats. Some require a completed bachelor's degree; others begin at the undergraduate level. Most require moderate levels of science/mathematics and strong interpersonal skills.</p> | <p>speech-language pathologists, recreational therapists, etc.</p> |
| <p>ASSISTING AND ADJUNCT</p> | <p>... support other health professionals and usually entail primarily either direct patient care or hands-on applications. These fields are minimally to moderately selective/competitive and usually require minimal levels of science/mathematics. Some can be completed with just a certificate; others require an associate's degree, a bachelor's degree, or even a bachelor's degree plus certificate.</p> | <p>Include: technologists, technicians, assistants, aides, etc.</p> |
| <p>EDUCATIONAL</p> | <p>... assist patients and people with their health and with the healthcare system. Selectivity depends upon the program and degree sought, ranging from associate's to bachelor's degrees, post-baccalaureate certificates, and graduate-level degrees. These fields require little to no science/mathematics, but some science/mathematics usually provides an advantage. Some require a background in education or counseling, and a strong foundation in the humanities or social sciences is helpful. Strong interpersonal skills are usually essential.</p> | <p>Include: dietary managers, biomedical writers, mental health workers, health educators, health science librarians, etc.</p> |

| | | |
|----------------|---|--|
| ADMINISTRATIVE | <p>... assist or manage health organizations, not individual patients. Selectivity depends upon the program and degree sought. Degrees are offered at both undergraduate and graduate levels. Courses in science are advantageous but not usually required. Some degrees require a background in business, which includes mathematics, and most require a strong foundation in the social sciences.</p> | <p>Includes: nursing home directors, geriatric care managers, health wellness coordinators, hospital public relations officers, quality assurance directors, medical secretaries, admitting officers, etc.</p> |
| AFFILIATED | <p>... are independent but related to health care. These fields vary widely: some require direct patient care while others entail no patient care; some are science-based while others are based more in the social sciences; some are highly selective, others minimally selective. Most fields require a completed bachelor's degree plus a graduate-level degree, often a Ph.D.</p> | <p>Includes: biomedical engineers, biostatisticians, social workers, epidemiologists, athletic trainers, environmental health scientists, etc.</p> |

Allopathic Medicine (MD) and Osteopathic Medicine (DO)

“Allopathic medicine” is a term sometimes referring to “the broad category of medical practice that is sometimes called Western medicine, biomedicine, evidence-based medicine, or modern medicine.”

Osteopathy is a type of alternative medicine that emphasizes physical manipulation of the body's muscle tissue and bones. The training of osteopathic physicians is similar to that of Doctor of Medicine (MD) physicians; the main difference between the two professions being that osteopathic physicians (DOs) typically focus on holistic medicine, health promotion, and disease prevention. Osteopathic physicians can choose any specialty, prescribe drugs, perform surgeries, and practice medicine anywhere in the United States; however, most osteopathic medical schools state plainly that their purpose is the production of primary care physicians.²²

Medicine provides many options for practice, from traditional private practice to academic medicine. While many choose medicine as a profession because they want to care for patients, it is not the only work physicians can do.²³

Physicians support and manage the health care of people of all ages. They take medical histories, perform physical examinations, conduct diagnostic tests, recommend and provide treatment, conduct research, and advise patients on their overall health and well-being. While there are many different types of physicians, they can usually be divided into three broad categories: ²⁴²⁵

²² <https://www.aacom.org/become-a-doctor/about-osteopathic-medicine>

²³ <https://students-residents.aamc.org/medical-careers/what-can-i-do-my-degree>

²⁴ <https://students-residents.aamc.org/choosing-medical-career/deciding-career-medicine>

²⁵ <https://students-residents.aamc.org/choosing-specialty-careers-medicine/choosing-specialty-careers-medicine>

- *Primary care physicians* are the doctors patients usually visit most frequently. They treat a wide range of illnesses and regularly provide preventive care, and they also enjoy long-term relationships with their patients. Pediatricians, family practitioners and general internists are primary care physicians.
- *Surgeons* perform operations to treat diseases and repair injuries.
- *Specialists* have expertise related to specific diseases as well as body parts, organs, and systems. Cardiologists, oncologists, neurologists, and ophthalmologists are examples of specialists.

It typically takes 11 to 16 years to complete your education, including four years of college (undergraduate school), four years of medical school, and anywhere from three to eight years of training in a specific specialty area (i.e., residency training), depending on which specialty you choose to pursue.

To maintain a medical license, doctors are also required to continue taking courses and learning about advancements in their field throughout their careers. Notably, graduates of osteopathic medical schools have the option to sit for both the osteopathic physician-specific [Comprehensive Osteopathic Medical Licensing Examination \(COMLEX\)](#) medical licensing exam and the allopathic [United States Medical Licensing Examination \(USMLE\)](#) licensing exam.

Applying to Medical School

Medical schools utilize the [American Medical College Application Service® \(AMCAS®\)](#), the AAMC's centralized medical school application processing service. Most U.S. medical schools use AMCAS as the primary application method for their first year entering classes.

The [American Association of Colleges of Osteopathic Medicine Application Service \(AACOMAS\)](#) functions as the centralized online application service for the U.S. colleges of osteopathic medicine. Once received by AACOMAS, a student's application and materials go through a verification process before being transmitted to their selected programs. The AACOMAS application cycle opens in May and closes the following April; however, deadlines vary by program.²⁶

[American Association of Medical Colleges \(AAMC\) Timeline of Application to Medical School](#)

[Filterable List of AAMC Medical Schools and Application Requirements](#)

[American Association of Colleges of Osteopathic Medicine \(AACOM\) Certified Osteopathic Medical Schools](#)

All students who apply to medical school have a bachelor's degree. There are a few exceptions for students in special programs that have prior arrangements with medical schools. Some applicants have earned a master's degree or doctorate before applying to osteopathic medical school.²⁷

Premedical coursework varies at each college but generally requires at least:

²⁶ <https://choosedo.org/college-application-deadlines/>

²⁷ <https://choosedo.org/us-colleges-of-osteopathic-medicine/>

- One year of biology
- One year of physics
- One year of English composition
- Two years of chemistry

All medical schools require letters of evaluation/recommendation. Some states require criminal background checks for all medical students. All osteopathic medical schools require criminal background checks for all matriculating students and prior to the start of clinical rotations, or at some other specified time. Many colleges and clinical rotation sites require drug testing, either as a condition of matriculation or at some other specified time.²⁸

²⁸ <https://choosedo.org/admission-requirements/>

University of Louisville, School of Medicine Admissions

The [University of Louisville's School of Medicine](#) plays a vital role in the University of Louisville's quest to become a premier, nationally recognized metropolitan research university. Throughout its history, the University of Louisville School of Medicine has been a pioneer in terms of modern medical practice and surgical procedures. At the UofL School of Medicine, more than 600 medical students, 275 graduate students, and 1,000 resident physicians and post-doctoral fellows train annually. The 900 faculty teach, conduct research and provide patient care throughout the city.

Applicants to UofL's School of Medicine are considered competitive. Kentucky residents are selected for 120 of the approximately 155 seats in the School of Medicine program each year. UofL's latest incoming Class Profile for 2021 admits include: ²⁹

- An average 3.65 cumulative GPA, with BCPM GPA average of 3.53
- A 507 MCAT score, on average (ULSOM Admissions prefer no less than a 124 in each test area).

The ULSOM requires as prerequisite courses: ³⁰

- 2 semesters of General Biology with labs
- 2 semesters of General Chemistry with labs
- 2 semesters of Organic Chemistry
- 2 semesters of Physics with labs
- 1 Semester of Biochemistry
- 2 semesters of English and/or Communication
 - 1 semester can be a Writing Intensive course (including in another department) as long as it is stated on transcript
 - **Only 1 semester may be fulfilled through AP credit.

²⁹ <https://louisville.edu/medicine/admissions/student-resources-1/student-profile>

³⁰ <https://louisville.edu/medicine/admissions/app-process/complete-prerequisites>

- Highly recommended: 1 semester of Statistics (mathematics no longer required), as well as courses in the social sciences (Psychology and Sociology) due to additional content on the MCAT and to prepare for medical education

**AP credit is accepted for prerequisite courses except for Biology, minimum score removed to defer to home institution policy.

Additionally, the admissions office notes that research is not required, but it is highly recommended if a student is interested. Overall, it is beneficial to at least try participating in research opportunities if you are able in order to have the experience. By doing so, students can gain additional skills helpful towards time in medical school, including statistics and problem solving.

The ULSOM requires recommendation letters, including 2 letters from science professors (including research faculty) and 1 from a non-science professor. Up to 2 additional letters may be submitted, but it is not required. In addition to the AMCAS application, the ULSOM requires a secondary application due December 1st of the same year.

Interviews begin mid-August and end in February. All interviews are conducted virtually throughout the COVID-19 pandemic. Waitlist offers are extended after the multiple except deadline of April 30th and throughout the summer as they are available.

Applying for Residency

During the 4th year of medical school, medical schools begin the process of applying to residency programs. Applying for residency involves two separate activities: preparing and submitting your application to your chosen programs and interviewing at the programs that offer you an invitation.

Residency applications are a compilation of materials that demonstrate your qualifications and help programs assess whether a student would be a good fit for their specialty and would be a successful trainee. The following materials/qualifications are needed to apply for residency: ³¹

- Graduation from an American Association of Medical Colleges (AAMC) accredited program.
- Application or curriculum vitae (CV)
- Letters of recommendation
- Personal statement
- Medical school transcripts
- Medical Student Performance Evaluation (MSPE)
- [United States Medical Licensing Examination \(USMLE\)](#) or [Comprehensive Osteopathic Medical Licensing Examination \(COMLEX\)](#) transcript
- You are responsible for creating or assembling the first three components; your medical school is responsible for the remaining items.

³¹ <https://students-residents.aamc.org/understanding-application-process/how-apply-residency-positions>

Organizations of Note

National Organizations

- [Student National Medical Association](#)
- [Latino Medical Student Association](#)
- [Asian Pacific American Medical Student Association](#)
- [Association of Native American Medical Students](#)

[University of Louisville School of Medicine](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Allied Health Club](#)
- [Alpha Epsilon Delta](#)
- [Collegiate Neuroscience Society](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)
- [Nutrition Group](#)
- [Obstetrics & Gynecology Interest Group](#)
- [Oncology Interest Group](#)
- [Radiology Student Interest Group](#)
- [Trew Friends](#)

University of Louisville Health Professional Organizations

- [American Medical Association and the Kentucky Medical Association Student Section at the University of Louisville](#)
- [American Medical Student Association University of Louisville Medical Chapter](#)
- [American Medical Women's Association](#)
- [Medical Student Music Initiative](#)
- [South Asian Medical Student Association](#)
- [Student National Medical Association](#)

Communication Sciences and Disorders (Audiology and Speech-Language Pathology)

Audiology is the study of hearing, balance, and related disorders.

Audiologists are health care professionals who provide patient-centered care in the prevention, identification, diagnosis, and evidence-based treatment of hearing, balance, and other auditory disorders for individuals of all ages.³² Hearing and balance disorders are complex with medical, psychological, physical, social, educational, and employment implications. Treatment services require audiologists to have knowledge of existing and emerging technologies, as well as interpersonal skills to counsel and guide patients and their family members through the (re)habilitative process. Audiologists provide professional and personalized services to minimize the negative impact of these disorders, leading to improved outcomes and quality of life.³³

Students applying to audiology programs typically pursue an undergraduate degree in speech and hearing science. Many programs offering the doctor of audiology degree have widened their scope and strongly consider students with academic disciplines in broad areas of science and technology including biology, physics, chemistry, psychology, and engineering.³⁴

Speech-language pathologists are health care professionals who identify, assess, and treat speech and language problems as well as swallowing disorders. They provide services to clients with disorders in the following areas:

- Speech disorders, including articulation problems, fluency (e.g., stuttering) disorders, and voice problems

³² <https://www.asha.org/students/about-audiology-careers/>

³³ <https://saa.audiology.org/education/undergraduate-programs/applying-to-audiology-graduate-school/>

³⁴ <https://saa.audiology.org/education/undergraduate-programs/>

- Language disorders, including receptive/expressive language, spoken and written language, and social/pragmatic language
- Swallowing disorders, including pediatric and adult feeding disorders
- Cognitive disorders, including dementia

A *speech-language pathology assistant* (SLPA) is a person who, after appropriate training and demonstration of competency, performs delegated tasks that are prescribed, directed, and supervised by a certified and/or licensed speech-language pathologist (SLP). SLPAs (Speech-Language Pathology Assistants) may provide the following types of services (if permitted by state law and when the SLPA has demonstrated competence):

- Assist the SLP with speech, language, and hearing screenings without clinical interpretation
- Provide guidance and treatment via telepractice to students, patients, and clients who are selected by the supervising SLP as appropriate for this service delivery model
- Serve as an interpreter for patients/clients/students and families who do not speak English
- Advocate for individuals and families through community awareness, health literacy, education, and training programs

Speech, language, and hearing scientists are professionals who investigate the biological, physical, and psychological processes of communication and develop evidence-based methods for diagnosing and treating individuals with speech, language, and hearing problems.³⁵³⁶

³⁵ <https://www.asha.org/students/considering-and-pursuing-a-phd-in-csd/>

³⁶ <https://www.asha.org/students/learn-about-the-csd-professions/>

Requirements for Practice

Audiology (Au.D/PhD)

A Doctorate of Audiology (Au.D) or PhD from an accredited program (i.e., Accreditation Commission for Audiology Education (ACAE), Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA)) is required to work as an Audiologist.

Au.D degrees are clinical in nature, preparing students to practice audiology in patient settings. PhDs, on the other hand, are academic in nature and prepare students to study audiology in a research capacity. Dual Au.D/PhD programs are available for students who wish to possess both degrees.

- Prerequisites: a minimum of 75 semester hours of post-baccalaureate study, meeting prescribed competencies, passing a national exam offered by Praxis Series of the Educational Testing Service, and practicum experience equivalent to a minimum of 12 months of full-time, supervised experience.
- Regulated by state licensure or registration.

Audiologists can earn a [Certificate of Clinical Competence in Audiology \(CCC-A\)](#) from the American Speech-Language-Hearing Association or seek board certification through the American Board of Audiology (ABA).

Speech-Language Pathologist

A master's degree (e.g., MA/MS) is required to work independently as a speech-language pathologist.

A master's degree in speech-language pathology requires approximately 2 years of full-time study.

Degree requirements include both academic coursework and clinical practicum experience.

Speech-Language Pathologists can earn a [Certificate of Clinical Competence in Speech-Language Pathology \(CCC-SLP\)](#) from the American Speech-Language-Hearing Association.

Speech-Language Pathologist Assistant

Each state has different requirements regarding the regulation of SLPAs. Assistants may be required to be licensed, certified, or registered to work in various states.

ASHA established the [Assistants Certification Program](#) and examination for SLPAs in 2020. This is a voluntary credential that establishes nationwide standards for assistants that will show employers that these standards have been met.

For information about regulations in your specific state, see the [ASHA State-by-State information](#) and select the "Support Personnel" subheading after choosing the individual state.

Speech, Language, and Hearing Scientists

A research doctoral degree (e.g., PhD) is generally required to work as a speech, language, and hearing scientist. Students may pursue research degrees in communication sciences and disorders or in a related discipline, such as psychology or linguistics.

Applying to Graduate School

All audiology graduate programs require an application, personal statement, transcripts, Graduate Record Examinations (GRE®) scores, and letters of recommendation from academic or clinical faculty. Some programs may ask for interviews.

A bachelor's degree is required for admission to graduate school. Some master's degree programs require that applicants have an undergraduate degree in communication sciences and disorders (CSD), whereas other programs require applicants to take prerequisite coursework as part of the graduate program.

Students can use [EdFind](#), ASHA's online search tool, to identify master's programs in speech-language pathology and their requirements.

Many programs utilize the [CSDCAS](#), a streamlined application created by the Council of Academic Programs in Communication Science and Disorders (CAPCSD) for application to Audiology and Speech-Language Pathology clinical education programs nationwide.

Grants and Scholarships

- <https://saa.audiology.org/education/grants-and-scholarships/>
- <https://www.audiology.org/students-apply-now-for-a-2021-scholarship/>
- <https://www.audiology.org/foundation/our-work/scholarships-and-grants/music-and-hearing-research-grant-program/>
- <https://www.asha.org/students/financial-aid/>

Organizations of Note

National Organizations

- [The American Academy of Audiology](#)
- [Student Academy of Audiology](#)
- [The National Student Speech Language Hearing Association \(NSSLHA\)](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)

Dentistry

Dentistry, also known as dental medicine and oral medicine, is a branch of medicine that consists of the study, diagnosis, prevention, and treatment of diseases, disorders, and conditions of the oral cavity and of adjacent and related structures and tissues.

Careers in dentistry include:

- Dentist
- Dental assistant
- Dental hygienists
- Dental technicians
- Dental therapists

A *dentist* is a healthcare professional qualified to practice dentistry after graduating with a degree of either Doctor of Dental Surgery (DDS) or Doctor of Dental Medicine (DMD).

There is no functional difference between the two degrees as both degrees include the same curriculum requirements set by the American Dental Association (ADA).³⁷

Many students interested in going to dental school are under the impression that they must major in biology or some branch of science to be accepted to dental school. This is an incorrect assumption. A specific undergraduate major is not

Specialties within dentistry include:

- Dental Anesthesiology
- Dental Public Health
- Endodontics
- Oral and Maxillofacial Pathology
- Oral and Maxillofacial Radiology
- Oral and Maxillofacial Surgery
- Oral Medicine
- Orofacial Pain
- Orthodontics and Dentofacial Orthopedics
- Periodontics
- Pediatric Dentistry
- Prosthodontics

required for acceptance to dental school; however, a good foundation in the sciences is required.

Applicants with a well-rounded education, a variety of interests, and individual experiences are ideal candidates and are encouraged to choose a major where they can demonstrate strong academic performance while focusing on developing a strong background in the sciences. Many programs also encourage students to take courses in social sciences and many dental schools have accepted students with majors in music, art history, engineering, math, humanities, and sports administration, to name a few.³⁸

Requirements for Practice

- A degree in *either* Doctor of Dental Surgery (DDS) or Doctor of Dental Medicine (DMD).
- Prerequisites:
 - Two semesters (three quarters) of biology with lab,
 - Two semesters (three quarters) of general chemistry with lab,
 - Two semesters (three quarters) of organic chemistry with lab and
 - Two semesters (three quarters) of physics with lab.
- Some dental schools require additional courses, such as English composition, and additional upper-level biology courses, such as anatomy and physiology, microbiology, and biochemistry. Some dental schools will substitute one semester of biochemistry for the second semester of organic chemistry. Many schools strongly encourage applicants to take courses in the arts and social sciences.³⁹

³⁸ https://www.adea.org/GoDental/Future_Dentists/FAQ.aspx

³⁹

https://www.adea.org/GoDental/Application_Prep/Preparing_for_Dental_School/Prerequisites.aspx

Applying to Dentistry School

All dentistry graduate programs require an application through the ADEA Associated American Dental Schools Application Service (ADEA AADSAS®), personal statement, transcripts, [Dental Admissions Test \(DAT\)](#) scores, and letters of recommendation from academic or clinical faculty.

All U.S. dental schools require the DAT, which is administered by the American Dental Association (ADA).⁴⁰ The ADEA AADSAS opens around the first of the month in June.

Applicants who are Texas residents wishing to apply to dental schools in Texas will use the Texas Medical and Dental Schools Application Service (TMDSAS). Most dental schools require an interview be considered for entrance into a class.

- [ADEA's Timeline for Applying to Dentistry School](#)
- [Dentistry Schools in the United States](#)

Career or Residency?

Following graduation from dental school, dentistry graduates can choose to either go straight into practice or pursue post-graduate residency options. While not necessary to practice as a general dentist, residency is something that dental graduates may want to consider as it allows them to expand their career options, define their specialty in dentistry, and increase their scope of practice. Advanced training such as General Practice Residencies (GPR) and Advanced Education in General Dentistry (AEGD) programs are also offered, allowing dentists to sharpen or increase their skills or knowledge in specialties that could help them in their

⁴⁰ https://www.adea.org/GoDental/Application_Prep/The_Application_Process.aspx

general practice. Some specialties may require students to pursue post-graduate residency to practice.⁴¹

The length of these general dentistry advanced dental programs varies, but most are 12 months in duration. There are currently 177 GPR programs and 93 AEGD programs in the United States. The Commission on Dental Accreditation (CODA) has a list of approved advanced programs for dentistry graduates [here](#).

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https://www.adea.org/GoDental/Career_Options/Advanced_Education_in_General_Dentistry.aspx

Organizations of Note

National Organizations

- [American Dental Education Association \(ADEA\)](#)
- [The ADEA's Official Guide to Dental School](#)

[University of Louisville School of Dentistry](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [American Association of Public Health Dentistry \(AAPHD\) - University of Louisville Student Chapter](#)
- [American Dental Education Association](#)
- [Asian American Dental Association](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Hispanic Student Dental Association at ULSD](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)
- [Operation Smile Louisville](#)
- [Student Society for Pediatric Dentistry](#)
- [The American Dental Hygienists' Association \(ADHA\) Student Chapter](#)
- [University of Louisville Pre-Dental Society](#)

Nursing

Nursing is a profession within the health care sector focused on the care of individuals, families, and communities so they may attain, maintain, or recover optimal health and quality of life. *Nurses* may be differentiated from other health care providers by their approach to patient care, training, and scope of practice. Nurses practice in many specialties with differing levels of prescription authority.⁴² All specialties require [certification](#) to practice. *Nurse practitioners* are permitted by most jurisdictions to practice independently in a variety of settings.

One pathway to professional nursing, as compared to technical-level practice, is the four-year Bachelor of Science in Nursing (BSN) degree. *Registered nurses* (RN) are prepared either through a BSN program; a three-year associate degree in nursing; or a three-year hospital training program, receiving a hospital diploma. All take the same state licensing exam. Completion of any one of these three educational routes allows a graduate nurse to take the [NCLEX-RN](#), the test for licensure as a registered nurse, and is accepted by every state as an adequate indicator of minimum competency for a new graduate.

Nursing is a great option for career-changers interested in beginning a health professional career. The University of Louisville's [MEPN \(Master's Entry into Professional Nursing\) program](#) within the School of Nursing offers a two-year program aimed at preparing students with a bachelor's degree in any area outside of nursing to become entry-level professional nurses. MEPN students earn both a Bachelor of Science in Nursing (BSN) and a Master of Science in Nursing (MSN). Graduates are eligible to take the National Council Licensure Examination (NCLEX-RN) for registered nursing licensure, and thus will be eligible to practice as a Registered Nurse in all 50 states following their successful examination.

⁴² <https://nursing.jnj.com/specialty>

Degrees of Practice⁴³

- State Registered Nurse Aide (CNA)
- Certificate of Licensed Practical Nurse (LPN) or Licensed Vocational Nurse (LVN)
- Associate degree in Nursing (ADN) or Associate of Science in Nursing (ASN)
- Bachelor of Science in Nursing (BSN)
- Master of Science in Nursing (MSN)
- Doctor of Nursing Practice (DNP) or Doctor of Philosophy in Nursing (PhD).

Specialization

Following successful examination of the NCLEX-RN, registered nurses can then choose to specialize in a broad range of areas. Specializing in nursing gives RNs (Registered Nurses) greater responsibilities and potentially higher salaries. Most nurses say that specialization increases their confidence in their practice, enhances their credibility, and adds significant value to their chances of employment.

There are over [90 specialties](#) in nursing, encompassing areas of management, community, emergency, family, long-term, and surgical care.⁴⁴

Applying to Nursing School

[NursingCAS](#), the Centralized Application Service for Nursing, allows students to apply to multiple nursing programs of interest for a nominal fee with one online application and one set of transcripts. Students can research and apply to nursing programs at participating schools nationwide at the doctoral, master's, bachelor's, LPN/LVN, certificate, and associate degree levels.⁴⁵

⁴³ <https://nursing.inj.com/nursing-degrees>

⁴⁴ <https://nursing.inj.com/why-choose-nursing-specialty/>

⁴⁵ <https://www.aacnnursing.org/Students/Apply-to-Nursing-School>

- [Participating NursingCAS schools](#)
- [Find a AACN \(American Association of Colleges of Nursing\) Nursing Program](#)

Grants and Scholarships

- [American Association of Colleges of Nursing](#)
- [Johnson & Johnson Scholarships](#)

Organizations of Note

National Organizations

- [National Student Nurses' Association](#)
- [Kentucky Nurses Association](#)
- [Kentucky Association of Nursing Students](#)
- [Kentucky Board of Nursing](#)

[University of Louisville School of Nursing](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Black Student Nurses Association](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)

Occupational Therapy

The American Occupational Therapy Association defines an *occupational therapist* as someone who "helps people across their lifespan participate in the things they want and need to do through the therapeutic use of everyday activities (occupations). Common occupational therapy interventions include helping children with disabilities to participate fully in school and social situations, injury rehabilitation, and providing supports for older adults experiencing physical and cognitive changes.⁴⁶

Students may consider majoring in at the undergraduate level: biology, kinesiology, psychology, sociology, anthropology, liberal arts, and anatomy.

Degrees to practice can include a Master of Occupational Therapy (MOT), a Master of Arts (MA), or a Master of Science (MS) degree at the master's level and Doctor of Occupational Therapy (DOT) at the doctoral level. Both degree levels are currently routes of entry to the profession and prepare graduates to be entry-level practitioners. The doctoral degree offers additional coursework that provides in-depth knowledge of clinical practice skills, research skills, administration, leadership, program and policy development, advocacy, education, and theory development.⁴⁷

Requirements to Practice

- Graduation from an accredited program (i.e., [Accreditation Council for Occupational Therapy Education \(ACOTE®\)](#)).
- Completion of fieldwork requirements.
- A passing score on the [National Board for Certification in Occupational Therapy \(NBCOT®\) Exam](#).

⁴⁶ <https://www.aota.org/About-Occupational-Therapy.aspx>

⁴⁷ <https://www.aota.org/Education-Careers/Considering-OT-Career/FAQs/Planning.aspx>

Applying to Graduate School

[The Occupational Therapist Centralized Application Service \(OTCAS\)](#) allows students to apply to multiple programs of interest with one online application and one set of transcripts. Occupational Therapy programs require the submission of transcripts, references, test scores, Occupational Therapy observational hours, an essay, and supplemental materials.

Occupational Therapist programs often require the Graduate Record Examinations (GRE®) for admission.

Organizations of Note

National Organizations

- [American Occupational Therapy Association](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)

Optometry

The American Optometric Association defines Doctor of Optometry as the independent primary health care professionals for the eye. Optometrists examine, diagnose, treat, and manage diseases, injuries, and disorders of the visual system, the eye, and associated structures as well as identify related systemic conditions affecting the eye.

A *Doctor of Optometry* prescribes medications, low vision rehabilitation, vision therapy, spectacle lenses, contact lenses, and performs certain surgical procedures. There are many different specializations in the field of Optometry. Optometrists counsel their patients regarding surgical and non-surgical options that meet their visual needs related to their occupations, avocations, and lifestyle.

Students wishing to study optometry should be certain to take at least a year of biology, chemistry, organic chemistry, general physics, and microbiology; English; college mathematics; and other social science and humanities courses. The science courses should be pre-professional level courses designed for science majors or health professional students and should offer laboratory experience.

Generally, colleges of optometry admit students who have demonstrated strong academic commitment and who exhibit the potential to excel in deductive reasoning, interpersonal communication, and empathy. Potential optometry students may be evaluated based on grade point average, performance on the Optometry Admission Test (OAT), extracurricular and community activities, personal interview, professional potential, etc.⁴⁸

Optometry schools are looking for “well-rounded” candidates who have achieved not only in the classroom but also in other areas. Leadership ability, a disposition

⁴⁸ <https://optometriceducation.org/future-students/resources/frequently-asked-questions/>

to serve others, and a work ethic characterized by dedication and persistence are just a few of the qualities that impress most admission committees.

Requirements to Practice

Only one degree qualifies someone to become an optometrist: the Doctor of Optometry (OD), a four-year, doctoral-level degree. While concentrating primarily on structure, function, and disorders of the eye, students in a professional OD program will also take courses in human anatomy, biochemistry, and physiology, among others, to prepare for their role as primary-care doctors protecting patients' overall health and wellness.⁴⁹

- A Doctor of Optometry (OD) from an accredited program.
- The Accreditation Council on Optometric Education (ACOE) is the only accrediting body for professional optometric degree (O.D.) programs, optometric residency programs, and optometric technician programs in the United States and Canada.
- State Licensure
- All states require graduation from an accredited professional optometric degree program as a prerequisite for licensure.
- The licensure examination consists of both clinical and written parts. In most states the written examination has been replaced with the examinations which are given during the student's academic career by the [National Board of](#)

Applying to Optometry School

[OptomCAS](#) is the Optometry Centralized Application Service, consisting of biographical data, colleges and universities attended, academic course history, letters of recommendation, work experience, extracurricular activities, honors, and a personal essay. OptomCAS allows students to file one application and send it to

⁴⁹ <https://optometriceducation.org/future-students/resources/>

multiple optometry programs. All schools and colleges of optometry participate in OptomCAS. OptomCAS opens in late June and closes in late May.

All Optometry schools require the [Optometry Admission Test \(OAT\)](#).

- [School-Specific Prerequisites of ASCO Member Schools and Colleges](#)
- [Find a ASCO Member School](#)

Organizations of Note

National Organizations

- [FutureEyeDoc.org](#)
- [Association of Schools and Colleges of Optometry](#)
- [American Optometric Association \(AOA\)](#)
- [American Optometric Student Association \(AOSA\)](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)
- [Ophthalmology Interest Group](#)

Pharmacy

Pharmacists are medication experts who enhance patient care and promote wellness. Pharmacists prepare and dispense prescriptions, ensure medicines and doses are correct, prevent harmful drug interactions, and counsel patients on the safe and appropriate use of their medications. Pharmacists provide direct patient care and work with existing medications and other health care professionals in a variety of practice settings. Other health care professionals rely on pharmacists to select and administer medications that offer the best results and quality of life for a particular patient. Pharmacists may prepare personalized medications, participate in patient rounds at the hospital, reduce the spread of infections, conduct research or clinical trials, or focus on a specific patient population or disease state (e.g., diabetes, heart disease, asthma, HIV (Human Immunodeficiency Virus), and pain management).⁵⁰

Pharmaceutical scientists work in labs or offices to develop new medicines or improve the way medicines are delivered. They may focus on one or more areas of research, such as biotechnology, drug manufacturing, health outcomes, medical technology, pharmacology, and cosmetic sciences to name a few. You may need to complete a graduate (master's or Ph.D.) degree after college to work as a researcher in a pharmaceutical company, university, regulatory agency (i.e., the FDA (Food and Drug Administration)), or national laboratory (i.e., NIH (National Institutes of Health)).⁵¹

⁵⁰ <https://www.aacp.org/resources/students/future>

⁵¹ <https://pharmacyforme.org/pharmacist-or-pharmaceutical-scientist/>

Pharmacists can serve in both practice and research roles, including clinical trial research with patients. Students who are interested in pursuing both career pathways may wish to consider a dual-degree program (e.g., Pharm.D./Ph.D.) or additional training and experience after completing a Pharm.D. degree. Both pharmacists and pharmaceutical scientists may choose to specialize in a variety of areas.

Students enter pharmacy school with a mix of majors, including (but not limited to) psychology, English, business, biochemistry, and pharmaceutical science. Only 10 percent of accepted applicants in recent years were chemistry majors. Biology has proven to be the most popular college major among accepted applicants.⁵²

Requirements to Practice

- A Doctor of Pharmacy (Pharm.D.) degree, or a Master of Science (MS)/PhD.
- Note: Only Pharm.D.s are permitted to see patients. MS/PhDs are appropriate for students with research focuses.
- The Accreditation Council for Pharmacy Education (ACPE) is recognized by the United States Department of Education (USDE) for the accreditation and preaccreditation, within the United States, of professional degree programs in pharmacy leading to the degree of Doctor of Pharmacy, including those programs offered via distance education.
- A passing score on the appropriate state licensure exam.

⁵² <https://pharmacyforme.org/admissions-faq>

Applying to Pharmacy School

The [Pharmacy College Application Service \(PharmCAS\)](#) allows students to apply to multiple Doctor of Pharmacy (Pharm.D.) degree programs offered by schools and colleges of pharmacy. PharmCAS is designed for first-year professional Pharm.D programs.

The [Pharmacy College Admissions Test \(PCAT\)](#) is currently required by several colleges and schools of pharmacy. Most colleges and schools of pharmacy require criminal background checks and drug testing as part of the admissions or enrollment process upon their initial, conditional acceptance to pharmacy school.⁵³ All pharmacy schools require competitive applicants to participate in an interview as part of the admissions process.

Many pharmacy schools participate in the [AACP Cooperative Admissions Guidelines \(CAG\)](#), also known as admissions traffic rules.

- The Pharm.D. degree requires at least 2 years of undergraduate study followed by 3-4 years in the Pharm.D. curriculum. Some pharmacy schools require or give preference to students with a bachelor's degree.

[American Association of Colleges of Pharmacy's \(AACP\) School Locator](#)

⁵³ <https://www.aacp.org/background-checks-and-drug-testing>

Organizations of Note

National Organizations

- PharmacyForMe.org

[Sullivan University Doctor of Pharmacy \(PharmD\) Program](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)
- [Pre-Pharmacy Club at the University of Louisville](#)

Physical Therapy

Physical therapy is treatment provided by a physical therapist or physical therapist assistant that helps people improve their movement and physical function, manage pain and other chronic conditions, and recover from and prevent injury and chronic disease.

Physical therapists and physical therapist assistants help people to maximize their quality of life. They work with people of all ages and abilities and in a variety of settings. They help people rehabilitate from devastating injuries, manage chronic conditions, avoid surgery and prescription drugs, and create healthy habits.⁵⁴⁵⁵

The [American Board of Physical Therapy Specialties \(ABPTS\)](#) offers board-certification in nine specialty areas of physical therapy:

- Cardiovascular and Pulmonary
- Clinical Electrophysiology
- Geriatrics
- Neurology
- Oncology
- Orthopedics
- Pediatrics
- Sports
- Women's Health
- Wound Management

Many students major in Exercise Science, Psychology, Health Science, Kinesiology, and Biology during their undergraduate career; however, it is not a requirement for

⁵⁴ <https://www.apta.org/your-career/careers-in-physical-therapy/pt-moves-me/>

⁵⁵ <https://www.apta.org/your-career/career-advancement/specialist-certification>

physical therapy programs. Many programs will accept students of any major, so long as they meet the [academic requirements](#).

Requirements to Practice

- A Doctor of Physical Therapy (DPT) degree from an accredited program.
- State licensure is required to practice as a PT or work as a PTA in the United States.
- Passing scores on the [National Physical Therapy Exam](#), administered by the Federation of State Boards of Physical Therapy.⁵⁶

Applying to PT School

The [Physical Therapist Centralized Application Services \(PTCAS\)](#) is a centralized application service that streamlines the admissions process for many PT programs.

Physical Therapy programs often require the Graduate Record Examinations (GRE®) for admission.

- [American Physical Therapy Association Directory of Accredited Schools](#)
- [PTCAS Comparison of Admission Requirements](#)

Grants and Scholarships

<https://www.apta.org/for-students/scholarships-awards>

⁵⁶ <https://www.apta.org/your-practice/licensure>

Organizations of Note

National Organizations

- [The American Physical Therapy Association \(APTA\)](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)

Physician Assistant

A *Physician Assistant* (PA) is a medical provider, licensed to diagnose and treat illness and disease and to prescribe medication for patients.

PAs (Physician Assistants) work in physician offices, hospitals, and clinics in collaboration with a licensed physician. Because of their advanced education in general medicine, modeled after physician education, PAs can treat patients with significant autonomy within the physician/PA relationship.

In the primary care setting, PAs can provide almost all the clinical services that physicians provide, including performing physical exams, diagnosing and treating illnesses, and prescribing medications. PAs also work in specialties outside of primary care. PAs are focused on patient care and may undertake educational, research, and administrative work. The PA profession is designed to be adaptable, preparing PAs to work with physicians in primary care or medical and surgical specialties and sub-specialties, as the need arises.

Clinical services that PAs can provide include:

- Take medical histories
- Perform physical exams
- Order and interpret laboratory tests
- Diagnose and treat illnesses
- Counsel patients
- Assist in surgery
- Set fractures

PAs work together with doctors as part of an integrated medical team. PAs have their own patients, and, under a written agreement with a licensed physician, make clinical decisions and provide a broad range of diagnostic, therapeutic, preventive, and health maintenance services.⁵⁷

Most programs require health care experience prior to admission. Programs offering bachelor's degrees typically require a minimum of two years' college

⁵⁷ <https://paeonline.org/how-we-can-help/advisors/what-is-a-pa>

credit. Master's-level programs typically require either a bachelor's degree or appropriate undergraduate credit, with a minimum GPA.

While a specific degree is not always mandatory, required college-level courses typically include: ⁵⁸

- basic sciences.
- mathematics.
- English composition.
- medical terminology.
- specialized science courses such as anatomy, physiology, microbiology, physics, or computer sciences.

Requirements to Practice

PAs are qualified to practice by graduation from an accredited PA educational program and certification by the [National Commission on Certification of Physician Assistants \(NCCPA\)](#).

To practice as a PA, a student must:

- Graduate from an accredited PA program.
- Pass the [Physician Assistant National Certifying Exam \(PANCE\)](#), administered by the [National Commission on Certification of Physician Assistants](#).

PAs and PA students can pursue additional education through postgraduate PA programs. A postgraduate program may choose to seek accreditation from the [ARC-PA](#), although not all do.

Many postgraduate programs belong to the [Association of Postgraduate Physician Assistant Programs \(APPAP\)](#). All APPAP members are formal programs that offer

⁵⁸ <https://paeonline.org/how-we-can-help/advisors/applying-to-a-physician-assistant-program>

structured curricula, including didactic and clinical components. They are designed to educate PAs for a defined period (usually 12 months) in a medical specialty, such as surgery or dermatology.⁵⁹

Applying to PA School

The [Physician Assistant Education Association \(PAEA\)](#) is the only national organization representing physician assistant educational programs in the United States. Currently, all of the accredited programs in the country are members of PAEA.

Application policies, procedures, and deadlines vary significantly from program to program. The application process depends upon whether the program participates in the [Centralized Application Service for Physician Assistants \(CASPA\)](#). Students must apply through CASPA for those programs that do participate. Programs that do not participate in CASPA post applications on their individual websites. In both cases, PAEA recommends students pay attention to the published application deadlines and complete the application process early, as many programs consider applications on a rolling basis.

Some programs may require you to submit the GRE, the TOEFL (Test of English as a Foreign Language), or other standardized tests.⁶⁰

All physician assistant schools recommend or even require shadowing hours before you can apply. This is to ensure that applicants understand what kind of work and lifestyle they are committing to. Observing a day in the life of a physician assistant can help you decide if PA school is right for you.

Pre-PA students are asked by the CASPA to divide their experience into two categories - healthcare experience and patient care experience. Shadowing hours

⁵⁹ <https://paeaonline.org/how-we-can-help/advisors>

⁶⁰ <https://paeaonline.org/how-we-can-help/advisors/caspa-application-checklist>

fall under healthcare experience because they are usually more focused on observational learning, rather than direct patient care. It is important for most programs that you have both types of experiences before you submit an application, and you are not allowed to count one experience for multiple categories. Any hours logged can only count for one of the categories on your application.

You can shadow a physician, rather than a PA, for at least some of those hours; although, it is usually a promising idea to spend a day or two shadowing a PA to get a better understanding of the differences. According to PAEA's report on PA school acceptances from 2019-2020, students who were accepted to PA school had an average of 94 hours of healthcare shadowing experience.⁶¹

The University of Louisville's PA partner program at Sullivan University cites PA applicants on average having about 500-600 hours of direct patient contact. Many accepted applicants have even more, with around 2,000 hours of direct patient contact.

While the amount of patient contact hours may seem daunting, it is easily attainable especially when an applicant considers working through a gap year. Applicants can earn hours through being a medical scribe, working as a medical technician or an EMT, serving as an athletic trainer, or even through other professional medical work such as nursing or veteran duty. So long as the work entails patient care or involves work in a healthcare setting, CASPA will allow a student to record the experience towards their patient hours.

⁶¹ <https://www.globalpremeds.com/2020/11/06/shadowing-requirements-for-pa-school/>

Organizations of Note

National Organizations

- [American Academy of Physician Assistants \(AAPA\)](#)
- [The Accreditation Review Commission on Education for the Physician Assistant, Inc. \(ARC-PA\)](#)

[Sullivan University Master of Science in Physician Assistant \(PA\) Program](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)

Podiatrics

A *podiatrist* is a Doctor of Podiatric Medicine (DPM), known also as a podiatric physician or surgeon, qualified by their education and training to diagnose and treat conditions affecting the foot, ankle, and related structures of the leg.

A DPM is a specialist in the prevention, diagnosis, and treatment of lower extremity disorders, diseases, and injuries. A podiatric physician works independently, utilizes x-rays and laboratory tests for diagnostic purposes, prescribes medications, orders physical therapy, sets fractures, and performs surgery.

Within the profession, podiatric physicians can specialize in a variety of areas such as surgery, orthopedics, or public health. Besides these certified specialties, podiatrists may practice a subspecialty such as sports medicine, pediatrics, dermatology, radiology, geriatrics, or diabetic foot care. Podiatric physicians are the only doctors to receive specialized medical and surgical training, and board certification in the care of the lower extremity.⁶²

Requirements to Practice

After completing the four-year curriculum required by podiatric medical schools, a new podiatric physician is required to participate in residency training.

In general, states require a minimum of two years of postgraduate residency training in an approved healthcare institution. Board certified podiatric physicians are required to have two years of residency training. A residency provides an interdisciplinary experience with rotations such as anesthesiology, internal medicine, infectious disease, surgery, ER and pediatrics.

Residency training provides a combination of medical and surgical experiences that are competency-based. Podiatric medical graduates select a 36-month

⁶² <https://aacpm.org/becoming-a-podiatric-physician/>

Podiatric Medicine and Surgery Residency (PMSR) that includes training in rear foot and ankle surgery.

Applying to Podiatric Medical School

To enter a podiatric medical school, one must first complete a minimum of three years or 90 semester hours of college credit at an accredited institution. Over 97% of the students who enter podiatric medical school have a bachelor's degree. Many have also completed some graduate studies.

The [American Association of Colleges of Podiatric Medicine Application Service \(AACPMAS\)](#) allows podiatric medical applicants to use a single web-based application and one set of transcripts to apply to all nine of the schools and colleges of podiatric medicine. AACPMAS verifies the application's components for accuracy, calculates the applicant's grade point average (GPA) and delivers the materials to the podiatric schools and colleges that the applicant designates.

- AACPMAS begins processing admission applications on the first Wednesday in August each year for Fall admission the following year. For priority consideration, March 1st of each year is the deadline for the upcoming Fall admission. The final application deadline date is June 30th of each year for Fall admission of the same year.

Traditionally the MCAT has been the only standardized test required for admissions to the podiatric medical schools.

All 9 podiatric programs require as a general guideline: ⁶³

- Average MCAT score of 494
- Average cumulative GPA of 3.3 (on a 4.0 scale)
- Average science GPA of 3.2 (on a 4.0 scale)
- 8 semester hours in the following science courses (with required lab):
 - o Biology
 - o Chemistry
 - o Organic Chemistry
 - o Physics
 - o Letters of Recommendation
 - o Personal interview

[Accredited American Association of Colleges of Podiatric Medicine \(AACPM\) Program List](#)

Organizations of Note

National Organizations

- [American Podiatric Medical Association \(APMA\)](#)
- [StepIntoPodiatry.com](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)

⁶³ <https://aacpm.org/becoming-a-podiatric-physician/admissions/>

Public Health

Public health protects and improves the health of individuals, families, communities, and populations, locally and globally. *Public health professionals* focus on preventing disease and injury by promoting healthy lifestyles. They implement educational programs, develop policies, administer services, conduct research, and regulate health systems to achieve these goals.⁶⁴

Public health professionals may concentrate in a variety of different academic and professional areas, common areas of study include:

- Behavioral and Social Science
- Biostatistics and Informatics
- Community Health
- Epidemiology
- Environmental Health
- Global Health
- Health Policy and Management
- Health Promotion and Communication
- Maternal and Child Health
- Minority Health and Health Disparities

As a field, public health is focused on protecting the health of entire populations. These populations can be as small as a local neighborhood or as big as an entire country. This is in contrast to clinical professionals, such as doctors and nurses, who focus primarily on treating individuals after they become sick or injured. Instead, public health aims to protect and improve the health of a community or population through education, promotion of healthy lifestyles and research about disease and injury prevention. Public health is a field ideal for anyone concerned

⁶⁴ <https://www.aspph.org/discover/>

about health disparities, interested in fighting for health care equity, quality, and accessibility.

Degrees of Practice⁶⁵

Undergraduate

- Bachelor of Science (BS)
- Bachelor of Arts (BA)
- Bachelor of Public Health (BSPH)

The Bachelor of Science (BS) or a Bachelor of Arts (BA) in public health provides the introductory foundations for a future career in public health. While the degree is offered only at select public health schools and programs, it allows the undergraduate to receive early and broad training in the field to prepare for further study in public health. *A BS, BA, and BSPH are not necessary prerequisites to apply for a graduate-level degree in public health.*

Master's Degrees

- Master of Public Health (MPH)
 - o The most common graduate-level degree awarded by CEPH-accredited schools and programs of public health. The degree is suited for students interested in pursuing a professional career in public health and is not primarily geared toward teaching or research.
- Master of Health Administration (MHA)
 - o The MHA prepares students for careers in hospital administration, health policy, and health service management.
- Master of Science (MS)
- Master of Health Sciences (MHS)

⁶⁵ <https://www.aspph.org/study/>

- The MS and MHS degrees are academic degrees oriented toward students wishing to seek a career in teaching or conducting research at a college or university or other settings.

Doctoral Degrees

- Doctor of Philosophy (PhD)
- Doctor of Science (ScD)
- Doctor of Public Health (DrPH)

The Doctor of Philosophy (PhD) degree in public health is designed to prepare the student for a profession in teaching and research. PhDs and Doctor of Science (ScD) in public health continue their careers teaching at a university, conducting research in a national laboratory, or doing field work with populations across the globe.

The Doctor of Public Health (DrPH) degree is an advanced graduate-level degree that focuses, like the MPH, on the professional and practical elements of the field, rather than the academic.

Dual Degrees

Graduate schools and programs offer dual degree programs to meet increasing student demand for specialized educational options. A dual degree program is one in which a student enrolls simultaneously in two graduate programs (usually within the same institution) and works towards two graduate degrees. Some graduate programs come together through a formal agreement to design a way for a student to earn two degrees (one in each program) in an abbreviated period. At other schools and programs, students may design their own joint-degree program. Examples of common dual degrees include:

- Master of Public Health (MPH) / Medical Doctor (MD)
 - Graduates with an MPH/MD can apply their clinical skills with a public health perspective. They may work in a traditional clinical setting or may

work in a public health setting whether they can apply their medical knowledge to complex public health issues.

- Master of Public Health (MPH) / Juris Doctor (JD)
 - o Graduates with an MPH/JD degree focus on health policy and public health law. They often look at how federal and local laws and regulations impact the public's health.
- Master of Public Health (MPH) / Master of Science in Nursing (MSN)
- Bachelor of Science in Nursing (BSN) / Master of Science (MS)
 - o Public health nurses comprise the largest sector of the public health workforce. Graduates with a combined MPH/MSN degree, or a combined (BSN/MS) work on the front-line of public health managing public health interventions and public health programs.
- Master of Public Health (MPH) / Master of Business Administration (MBA)
 - o Graduates with an MPH/MBA combine their organizational management and leadership skills which are used in hospital settings, managing health care organizations and non-profits.
- Master of Public Health (MPH) / Master of Social Work (MSW)
 - o An MPH dual degree with a Master of Social Work is geared towards individuals interested in the intersection of social work in the health care system. Often courses are designed to teach students a preventative approach to health and social issues with an emphasis on underserved populations.
- Master of Public Health (MPH) / Doctor of Pharmacy (Pharm.D)
 - o Graduates with an MPH/PharmD dual degree are equipped to have special expertise in pharmacology, health promotion, disease prevention, and population health. Students will have advanced knowledge in the treatment of disease, medication safety, and pharmacotherapy.
- Master of Public Health (MPH) / Doctor of Physical Therapy (DPT)
 - o Students with an interest in Public Health and Physical Therapy can pursue a dual degree with an integrated approach to health care. Graduates can be more responsive to today's health care needs by training physical therapists to be leaders in prevention, health promotion, and population health.

- Master of Public Health (MPH) / Master of Arts (MA) / Master of Science (MS)
 - o The MPH degree can be combined with countless Master of Arts or Master of Science degrees, as well as a Master's in Public Policy and a Master's in Program Management. Common MPH/MA (MS) include International Development, Biomedical Studies, Latin American Studies, and Anthropology.

Certified in Public Health (CPH) Credential

The Certified in Public Health (CPH) credential allows graduates and professionals to continue their training in public health and ensure mastery in the competencies of the field. The CPH credential is voluntary for public health professionals and establishes expertise in the most current topics in the field. The CPH credentialing process comprises the CPH exam and a subsequent bi-annual recertification process. The [National Board of Public Health Examiners](#) is the independent organization tasked with administering the CPH exam and ensuring the programs and students remain credentialed and properly accredited.

Applying to Graduate School

The [Council on Education for Public Health \(CEPH\)](#) is the nationally recognized accrediting body for both schools of public health and public health programs.

Schools and programs of public health utilize the [Centralized Application Service for Public Health \(SOPHAS\)](#).

[The Association of Schools and Programs of Public Health \(ASPPH\) Program Finder](#)

University of Louisville, School of Public Health and Information Sciences

The [University of Louisville's School of Public Health and Information Sciences](#) is a metropolitan school that pursues excellence and inclusiveness through bold, strategic, and collaborative approaches to education, research, community engagement, policy, and practice. They strive to protect and improve public health and healthcare delivery systems in Louisville, the Commonwealth of Kentucky, the United States, and with our global partners.

The School of Public Health and Information Sciences (SPHIS) offers many resources and opportunities to UofL students interested in public health. Recently, SPHIS has seen an increase in the number of students going abroad to places such as Uganda, Africa, Costa Rica and Croatia. Real-world study abroad experiences like these through the [University of Louisville's Office of Study Abroad and International Travel](#) can introduce you to new perspectives and can inspire new goals, such as joining the Peace Corps.

SPHIS students have a six-hour capstone requirement serving as the culminating academic and intellectual experience of their academic experience. Examples of recent internships include Wilderness Corps, American Diabetes Association, Louisville Metro Department of Public Health & Wellness, Trilogy Health Services and University of Michigan Summer Enrichment Program.

The UofL SPHIS offers two undergraduate degrees in public health, a Bachelor of Science (BS) and Bachelor of Arts (BA). Both degrees teach the knowledge and skills one needs to succeed in career paths in public health, health care and other health-related and non-health-related fields. Students learn how to think critically and systemically, to communicate, and to work in teams. Both degree programs prepare you for further professional or graduate education in public health, medicine, dentistry, nursing, urban planning and other disciplines.

The UofL SPHIS also offers four minors in public health, ideal for students majoring in biology or chemistry or preparing for a career in health care. They are in the following sub-disciplines:

- Applied Statistics and Data Sciences
- Environmental Health
- Nutrition
- Public Health

Additionally, UofL SPHIS offers multiple graduate level degrees in public health at both the Master (MS) and Doctor of Philosophy (PhD) level:

- [Master of Public Health \(MPH\)](#)
[Master of Science \(MS\) in Biostatistics](#)
[Master of Science \(MSc\) in Clinical Investigation Sciences](#)
[Master of Science \(MS\) in Epidemiology](#)
[Master of Science \(MS\) in Health Administration](#)
[Master of Science \(MS\) in Health Data Analytics](#) (Offered online only)
- [Doctor of Philosophy \(PhD\) in Biostatistics](#)
[Doctor of Philosophy \(PhD\) in Public Health Sciences with specialization in Environmental Health](#)
[Doctor of Philosophy \(PhD\) in Public Health Sciences with specialization in Epidemiology](#)
[Doctor of Philosophy \(PhD\) in Public Health Sciences with specialization in Health Management and Policy](#)
[Doctor of Philosophy \(PhD\) in Public Health Sciences with specialization in Health Promotion and Behavioral Sciences](#)
[Dual PhD in Mathematics and MS in Biostatistics](#)

Organizations of Note

National Organizations

- [The Delta Omega Honors Society](#)

University of Louisville Recognized Student Organizations

- [\(Pre-Health\) Spanish Alliance of Louisville: Unifying Diversity](#)
- [Alpha Epsilon Delta](#)
- [Environmental Health Sciences Club](#)
- [Health Equality and Rightful Treatment \(HEART\)](#)
- [Kentucky Public Health Association \(KPHA\) U of L Chapter](#)
- [Medical Spanish Club](#)
- [Multicultural Association of Pre-Health Students \(MAPS\)](#)

Veterinary Medicine

Veterinary medicine is the branch of medicine that deals with the prevention, control, diagnosis, and treatment of disease, disorder, and injury in animals. Along with this, it deals with animal rearing, husbandry, breeding, research on nutrition, and product development. The scope of veterinary medicine is wide, covering all animal species, both domesticated and wild, with a wide range of conditions that can affect varied species.

Professional care is most often led by a veterinary physician (also known as a veterinarian, veterinary surgeon, or "vet"), but also by paraveterinary workers, such as veterinary nurses or technicians. This can be augmented by other paraprofessionals with specific specialties, such as animal physiotherapy or dentistry, and species-relevant roles such as farriers.

Besides medical skills, veterinarians often take a comprehensive approach to human well-being and animal welfare that, combined with communications and problem-solving skills, makes veterinarians uniquely qualified to fulfill a variety of roles. Many veterinarians, of course, provide care for companion animals through private medical practices, but veterinarians are also involved in promoting the health and welfare of farm animals, exotic animals, working animals (like those in the equine industry), and those that need a healthy environment in which to thrive, whether that environment is a rain forest, a desert or even the ocean.⁶⁶

Students are not required to be pre-vet majors to get into vet school – they are only required to get the prerequisite coursework completed and do well. Vet students can have undergraduate majors in math, engineering, English, and many others. The American Association of Veterinary Medical Colleges (AAVMC) stresses that it is important students enjoy their undergraduate studies by picking

⁶⁶ <https://www.aavmc.org/becoming-a-veterinarian/a-career-in-veterinary-medicine/>

a major that they are passionate about—not simply the “best one” for getting into vet school.⁶⁷

Applying to Veterinary School

The [Veterinary Medicine Centralized Application Service \(VMCAS\)](#) is a centralized application service for Colleges of Veterinary Medicine. Through VMCAS students can complete one application and send all their required materials through this service. Applications are then processed, verified for accuracy, and sent to the veterinary medical schools designated.

The Graduate Record Examination (GRE) is required by most veterinary schools, and some also require the Biology GRE. The Medical College Admission Test (MCAT) is also accepted by some schools in place of the GRE.

The [Veterinary Medical School Admission Requirements \(VMSAR\)](#) provides information about veterinary medical education. This directory of United States, Canadian, and International veterinary medical schools has search, filter, and comparison capabilities that provide essential information for applying to veterinary medical school.

⁶⁷ <https://www.aavmc.org/becoming-a-veterinarian/what-to-know-before-you-apply/pre-vet-faqs/>

Organizations of Note

- [American Association of Veterinary Medical Colleges](#)
- [The Boehringer Ingelheim Veterinary Scholars Program](#)
- [ApplyToVetSchool.org](#)

University of Louisville Recognized Student Organizations

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