

Pre-Medicine Preparation at UH Mānoa: Osteopathic

Text compiled from the American Association of Colleges of Osteopathic Medicine, AACOM's *Osteopathic Medical College Information Book 2012*, NAAHP's *Medical Professions Admission Guide*, and the *UHM 2011-2012 Catalog*

Osteopathic programs offered in Hawai'i: None*

*Note: Students can attend A.T. Still University in Arizona, and choose to finish their D.O. degree at the Waianae Coast Comprehensive Health Center. For more information, please contact Dr. Custodio at (808) 697-3444. Please see:

http://www.atsu.edu/soma/medschool_future/community_campuses/waianae.html

Medical doctors, or physicians, are highly trained healthcare professionals who perform medical examinations, diagnose illnesses, prescribe drugs, and treat patients suffering from injury or disease.

Physicians serve in all types of communities, from rural to inner city, and in a wide variety of settings, from private practice to clinics and hospitals. They also work in specialized settings, such as homeless shelters, schools, sports programs, prisons, nursing homes, third-world countries, and the armed forces. About one-third of the nation's physicians are generalists, or "primary care" doctors, although that percentage is declining as more physicians choose to become specialists. Generalists include fields such as internists, family physicians, and pediatricians. Specialists focus on a particular system or part of the body; examples include neurologists, hematologists, cardiologists, and podiatrists, to name only a few.

Physicians also conduct research, studying and developing new treatments for disease, teach in academia, sharing their skills by educating medical students, and work for health organizations, pharmaceutical companies, medical technology manufacturing, health insurance companies, and in corporations with health and safety programs.

Related Professions: physician assistant, nursing, medical technologist, dentistry, optometry, veterinary medicine, pharmacy, biomedical research, biomedical engineering, and hospital administration.

There are five primary fields in medicine: Allopathic, Chiropractic, Naturopathic, Osteopathic, and Podiatric, all of which diagnose and treat disease.

- **Allopathic physicians** (M.D.s, Medical Doctors, or Doctors of Medicine) focus on diagnosing and treating disease; treatments include prescription medication and surgery. Allopathic medicine offers both primary care and specializations; most M.D.s choose to specialize.
- **Chiropractic physicians** (D.C.s, Doctors of Chiropractic, or Doctors of Chiropractic Medicine) focus on the promotion of health through the alignment of the musculoskeletal structure. D.C.s do not use invasive procedures such as surgery.
- **Naturopathic physicians** (D.N.s, Doctors of Naturopathy, or Doctors of Naturopathic Medicine) focus on maintaining physical, emotional, and spiritual wellness through

lifestyle choices and natural remedies such as acupuncture, reflexology, homeopathy, etc. D.N.s do not use invasive procedures such as surgery.

- **Osteopathic physicians** (D.O.s, Doctors of Osteopathy, or Doctors of Osteopathic Medicine) focus on diagnosing and treating disease with an emphasis on primary care, holistic evaluation, and the prevention of disease. In addition to the core medical training, D.O.s receive 200 hours of training in osteopathic manipulative medicine (OMM), a hands-on therapy used to diagnose and treat illness and injury. The scope of practice for M.D.s and D.O.s is very similar. Osteopathic medicine offers both primary care and specializations; most D.O.s choose to work in primary care.
- **Podiatric physicians** (D.P.M.s, or Doctors of Podiatric Medicine) focus on the diagnosis and treatment of diseases concerning the foot and ankle. Podiatric medicine is an early specialization of allopathic medicine and includes the prescription of medications and surgery.

Osteopathic D.O. Programs

Becoming a Doctor of Osteopathy (D.O.) requires 9 to 16 years of education:

Bachelors Degree (~ 4 years);
Medical School (4 years);
Internship (1 year);
Residency (~2-7 years, depending on specialty).

Years one and two of osteopathic medical school focus on basic science foundation of medicine and on core clinical examination skills and the systems of the body. Years three and four consist of clinical clerkships.

By the end of year two, students must pass the Comprehensive Osteopathic Medical Licensing Examination, or COMLEX-USA Level 1, administered by the National Board of Osteopathic Medical Examiners (NBOME). Students must pass COMLEX Level 2-CE before graduation and COMLEX Level 3 prior to the end of the internship year.

Osteopathic medical students may opt to take the licensing exams given to allopathic medical students, the United States Medical Licensure Examination, or USMLE Levels 1-3.

Following residency training, D.O.s take certification examinations for the residency's specialty. Board certification is required by many hospitals and insurance companies.

To maintain Board certification, D.O.s must also complete a minimum number of credit hours of Continuing Medical Education, or CME. The American Osteopathic Association (AOA) sets the basic requirement, but the minimum number of credit hours is set by individual states' licensing boards.

Prerequisites for Admission

Most importantly, remember that *requirements vary from school to school!* Students should research to create a list of all prerequisite courses they need to apply to the medical schools they are interested in attending. Next, they should figure out how the requirements will fit into their undergraduate degree, whether as general education core, major courses, or as electives.

A complete list of prerequisite required by osteopathic medical schools can be found in AACOM's *Osteopathic Medical College Information Book*.

The following UHM courses are commonly required:

Biol 171/171Lab and 172/172Lab	Introductory Biology I and II
Chem 161/161Lab and 162/162Lab	General Chemistry I and II
Chem 272/272Lab and 273/273Lab	Organic Chemistry I and II
Phys 151/151Lab and 152/152Lab	College Physics I and II
English (2 courses)	

Recommended courses may include anatomy, biochemistry, genetics, and physiology; additional requirements may include math and additional behavioral sciences.

Pre-Med Programs

Health Sciences RLP

<http://manoa.hawaii.edu/housing/rlp>

Students with similar majors or interests live together on selected resident floors. Residents will be able to study together, work together, and learn from each other. This particular program is designed for freshmen considering a career in the health fields.

Native Hawaiian Student Pathway to Medicine

<http://www.hawaii.edu/nhcoe/students/native-hawaiian-student-pathway-to-medicine/>

The Native Hawaiian Student Pathway to Medicine (NHSPM) is a program that provides support to Native Hawaiian pre-medical students who demonstrate potential to be competitive medical school applicants. The program focuses on preparation during the sophomore and junior years.

Pre-Medical Association's HUMI Program

PMA members have the opportunity to shadow physicians participating in the HUMI program. Contact PMA for more information.

MCAT Revision 5

The MR5 Advisory Committee will be implementing a new revision of the MCAT test beginning January 2015. Exam content will require three additional pre-requisite courses: Introductory

Sociology (SOC 100), Introductory Psychology (PSY 100), and Biochemistry (BIOC 241 or higher).

What makes a strong candidate?

Medical school tuition, as high as it is, covers only a fraction of the cost of educating a physician, which means each new student represents a huge investment by the school. Schools need to be certain that the students they accept will be capable of completing the medical curriculum and are likely to become good physicians.

Are you capable of completing the medical curriculum?

Medical school admissions committees are looking for students who have:

- completed the prerequisites
- a high overall GPA
- a high science/math GPA
- performed well on the MCAT
- balanced their course load so it is challenging yet realistic

Are you likely to become a good physician?

According to the AACOM, admissions committees look for students who:

- are well-rounded
- have good communication and interpersonal skills
- have a record of community service
- have a record of leadership
- have participated in a variety of extracurricular activities
- come from diverse backgrounds
- are motivated to pursue a career in osteopathic medicine
- have knowledge of osteopathic medicine
- have shadowed an osteopathic physician
- have clinical experience in an osteopathic setting

Many osteopathic medical schools also require a letter of recommendation specifically from an osteopathic doctor you shadowed.

There is a long history of non-traditional students accepted into osteopathic medical schools in order to pursue osteopathic medicine as a new career later in life. Nearly all students who apply to osteopathic medical schools have a completed bachelor's degree.

Researching Schools

There are currently 26 accredited osteopathic medical schools at 34 locations in 25 states. Prospective applicants should become familiar with their websites and differences. AACOM's *Osteopathic Medical College Information Book* provides summaries about each school, making it easy for students to compare and choose.

To find schools that are good a fit for you, PAC peer advisors can help with this process:

1. Assess your individual strengths and weaknesses, your professional interests, learning style, and personality;
2. Start with a list of all schools you would consider attending, which usually includes all 26 colleges of osteopathic medicine;
3. Using the *Osteopathic Medical College Information Book*, create your “Long List” by omitting the schools that do not match your professional interests, learning style, and personality (PAC offers a list of 7 factors to consider, found here: [Choosing a School Handout](#));
4. Once you have your MCAT scores, create your “Short List” by categorizing the schools into “Reach,” “Match,” and “Safety,” ranking the schools by preference, and finally choosing how many schools to apply to;

If possible, visit the schools to see their facilities, talk to Admissions Directors, and chat with students.

Entrance Exam

Overview: Almost all osteopathic medical schools require applicants to take the Medical College Admissions Test (MCAT). The MCAT assesses your knowledge and skills in Biological Sciences, Physical Sciences, Verbal Reasoning, and Writing. The test requires ~5 hours to complete, and entails ~144 multiple choice questions and two 30-minute essays. The MCAT is administered in a computer-based format, and is offered over twenty times each year.

Scoring: Writing samples are scored by letter grades ranging from J to T, with T being the highest; the other three sections are each scored 1-15, for a possible total of 45.

Preparation: Your most important preparation for the MCAT is your undergraduate courses (not only the prerequisites for medical school), many of which sharpen your writing and verbal reasoning skills. *Remember that the verbal reasoning score is not only the most accurate predictor of how well you will do in medical school, but also the most difficult score to improve.*

When registering for the MCAT, remember to request that scores be reported to AACOMAS because they will not be forwarded automatically.

Official Test Preparation Material:

- *The Official Guide to the MCAT Exam*, by AMCAS
- *Practice Exams*, on AMCAS website

The Application Process

Each year, the application cycle opens by June 1st and ends April 1. Application deadlines range from October 15th to April 15th, but because the schools use *rolling admissions*, classes may be filled before the posted deadline. *Apply early!*

There are **three general steps** in applying to osteopathic medical schools: the initial or primary application through the AACOM Application Service, or AACOMAS; the secondary, or supplemental application for individual schools; and the interview.

1. Primary applications must be submitted to AACOMAS at <https://aacomas.aacom.org>. Paper applications are available upon request, but electronic submissions are recommended. *Once the application is complete*, AACOMAS will forward it to whichever schools the student has designated. *It is your responsibility to verify that your application is complete before you submit!*

2. Secondary applications or supplemental applications are specific to individual schools; schools send their secondary applications to applicants only after they have received the AACOMAS application. Secondary applications frequently request additional information, essays, and letters of recommendation. Some, but not all schools screen applicants before sending secondary applications.

3. Interviews: After reviewing the primary and secondary applications, osteopathic schools invite promising applicants for an interview. *Applicants are responsible for all costs incurred while interviewing, including airfare, lodging, ground transportation, professional attire, and meals.*

Traffic Rules: Although the application process varies from school to school, AACOMAS has established “traffic rules” to ensure fairness for all concerned. These guidelines are available online and in AACOM’s *Information Book* and stipulate both schools’ and applicants’ rights and responsibilities during the admissions process. All applicants should be familiar with these rules before applying.

Tips:

- The more you know about the school, the better your chances of being accepted.
- Most application questions can be answered by reading the *Osteopathic Medical College Information Book* (available in PAC or online)
- Contact individual schools’ Admissions Offices to find out how they handle:
 - Advanced Placement (AP) credits
 - College-Level Examination Program (CLEP) credits
 - Military credits
 - Courses taken at a community college
 - Courses taken for credit/no credit instead of a grade
 - Residency issues
 - Time limits on acceptable science courses
 - Coursework taken outside the U.S.

Additional Information

UH Mānoa's Pre-Health and -Law Advising Center (PAC) has reference books, lists of volunteer opportunities, academic planning worksheets, and one-on-one advising by peers who can help you prepare for and apply to osteopathic medical schools.

UHM's Pre-Medical Association	www.hawaii.edu/premed pre-med@hawaii.edu
UHM's Biology Club	www.hawaii.edu/biology/contact.htm
American Osteopathic Association	www.osteopathic.org
American Association of Colleges of Osteopathic Medicine (AACOM)	www.aacom.org
AACOM Application Service	https://aacomas.aacom.org
Medical College Admissions Test	www.aamc.org/students/mcat
<i>Medical Professions Admission Guide: Strategy for Success</i> , by AACOM	available in PAC
<i>Osteopathic Medical College Information Book</i> , by AACOM	available in PAC