

Advising for Pre-Med Students

Medical Schools are competitive entry. Pre-Med students need an excellent cumulative GPA and GPA in medical school prerequisites. Students also need to do well on the MCATs and should look at including coursework that can help prepare them for the MCAT (such as additional sciences like Microbiology, Genetics, Physiology, cell or molecular biology).

Students from all majors can consider medical school. MCAT data shows the proportion of students applying to medical school from arts, humanities, and social science majors get admitted to medical school as do science majors. Medical schools rarely list specific majors as admissions requirements.

Pacific offers Pre-Med students resources through the Pre-Med Club, advised by Dr. Paige Baugher; the Advising Center; and the Career Development Center.

Allopathic Medicine (MDs)

Overview:

Medicine offers many careers. New opportunities emerge with each advance in medical knowledge and with development in the organization of medical services. The physician's responsibilities cover a wide range of functions in health maintenance, including both acute care and preventive care approaches involving substantial patient education. These responsibilities include diagnosing disease, supervising care of patients, prescribing treatment, and participating in improved delivery of health care. Although most physicians provide direct patient care, some concentrate on basic or applied research, some become teachers or administrators, and others combine various elements of these activities.

Graduating students select an area of medicine for further training and eventual practice. Some physicians practice in one of the generalist specialties (general internal medicine, general pediatrics or family medicine). Others choose from among the following specialties: allergy and immunology, anesthesiology, dermatology, emergency medicine, obstetrics and gynecology, pathology, psychiatry, radiology, physical medicine (rehabilitation), and surgery (general, neurology, orthopedic, plastic, urology, vascular).

New patterns of practice are emerging. Physicians may be salaried, in partnership, or self-employed. A physician may choose from such varied settings as a managed care system, a group practice that participates in a regional Preferred Provider Organization (PPO), clinic, hospital, laboratory, industry, military, university, government, or various combinations of these. Many physicians work long, irregular hours. More than 1/3 of all full-time physicians worked 60 hours or more per week in 2006.

Job Market and Salary:

Employment of physicians and surgeons is expected to grow by 24 percent from 2010 to 2020, faster than the average for all occupations. Job growth will occur because of the continued expansion of healthcare-related industries. The growing and aging population is expected to drive overall growth in the demand for physician services as consumers continue to seek high levels of care that uses the latest technologies, diagnostic tests, and therapies. Many medical schools are increasing their enrollments based on perceived higher demand for physicians.

Although the demand for physicians and surgeons should continue, some factors will likely reduce growth. New technologies will allow physicians to treat more patients in the same amount of time, thereby reducing the number of physicians who would be needed to complete the same tasks. Physician assistants and nurse practitioners (a type of registered nurse) can do many of the routine duties of physicians and may increasingly be used to reduce costs at hospitals and outpatient care facilities. For more information, see the profiles on physician assistants and registered nurses.

Furthermore, demand for physicians' services is sensitive to changes in healthcare reimbursement policies. Consumers may demand fewer physician services if changes to health coverage result in higher out-of-pocket costs for them.

In 2010, physicians practicing primary care received total median annual compensation of \$202,392, and physicians practicing in medical specialties received total median annual compensation of \$356,885. Median annual compensations for selected specialties in 2010, as reported by the Medical Group Management Association, were as follows: anesthesiology \$407,292, general surgery \$343,958, OB-GYN \$281,190, internal medicine \$205,379, psychiatry \$200,694, pediatrics \$192,148, and family practice \$189,402.

Credentials:

There are 131 medical schools in the United States that teach allopathic medicine and award a Doctor of Medicine (M.D.). Medical school curricula, although quite varied, have as their goal the preparation of students to enter a three- to eight-year period of graduate medical education. Generally, the first two years of medical school are devoted to the basic sciences with the next two years focusing on clinical skills. Most schools then require students to pass the United States Medical Licensing Examination (USMLE) in order to graduate. Following graduation, students enter residency training. Satisfactory completion of three years of training in family medicine, internal medicine, or pediatrics generally qualifies an individual to take the examination administered by the certifying boards of these specialties. Other areas may require additional years of residency.

Common Prerequisites for Allopathic Medical programs:

General Chemistry	Chem 220 and Chem 230
General Biology	Biol 200 and Biol 201
Organic Chemistry	Chem 300 and Chem 400
Physics	Physics 202/204 or Physics 232/242
English	English 201 (some schools require two semesters)
Math	Math 125 or Math 207 (some schools require two semesters of math)

Some schools also require one semester of Calculus (Math 226)

A number of schools also strongly recommend courses in genetics, biochemistry, computer science, cell biology, molecular biology, microbiology, psychology and sociology.

Note: Many schools do *not* accept AP credit in lieu of required courses.

There is a nearly universal requirement that applicants have some clinical experience, either paid or volunteer, and a history of volunteerism. Applicants must take the Medical College Admission Test (MCAT). Most medical schools recommend taking the MCAT in the spring of the year of application. Note that the Biological Sciences portion of the MCAT includes material *not* covered in Biol 202 or Biol 204.

Web Sites:

American Medical Association: www.ama-assn.org
American Medical Student Association: www.amsa.org
Association of American Medical Colleges: www.aamc.org
Premed.edu: www.premed.org

Osteopathic Medicine

Overview:

Osteopathic medicine is a unique form of American medical care that was developed in 1874 by Andrew Taylor Still, M.D. Osteopathic medicine embraces a holistic philosophy, considering the body as a unit of interrelated systems that work together to ensure good health. Although osteopathic physicians practice traditional forms of medicine, such as prescribing medication and performing surgery, they are trained to use an additional tool, osteopathic manipulative treatment, to assist in diagnosing and treating patients.

Osteopathic physicians focus special attention on the musculoskeletal system, which reflects and influences the condition of all other body systems. This system of bones and muscles makes up about 2/3 of the body's mass, and a routine part of the osteopathic patient examination is a careful evaluation of these important structures. D.O.s know that the body's structure plays a critical role in its ability to function. D.O.s are trained to identify structural problems and to facilitate the body's natural tendency towards health and self-healing.

Job Market and Salaries:

About half of all osteopathic physicians practice in primary care areas such as family practice, pediatrics, obstetrics/gynecology and internal medicine. D.O.s represent 6% of the total U.S. physician population. D.O.s are more likely than M.D.s to practice in small cities and towns and in rural areas. Each year 100 million patient visits are made to D.O.s.

Credentials:

To become an osteopathic physician an individual must be a graduate from one of 20 osteopathic medical schools. The osteopathic curriculum involves four years of academic study. After completing osteopathic medical school, D.O.s often serve a one-year internship. After the one-year internship, D.O.s enroll in a residency program of their choice which lasts two to six years, depending on the area of medicine they choose to perform.

Common Prerequisites for Osteopathic Medical programs:

General Chemistry	Chem 220 and Chem 230
General Biology	Biol 200 and Biol 201
Organic Chemistry	Chem 300 and Chem 400
Physics	Physics 202/204 or Physics 232/242
English	English 201
Psychology	One semester
Math	One semester
or	
Computer Science	CS 150

The average GPA of entering students in 2005 was 3.45.

Applicants are required to take the MCAT. The average MCAT scores for entering students in 2005 were: Verbal Reasoning: 8.30; Physical Sciences: 8.04; Biological Sciences: 8.64.

It is strongly encouraged that applicants obtain clinical experience.

Many schools require that at least one letter of recommendation be written by a D.O.

Web Sites:

American Association of Colleges of Osteopathic Medicine: www.aacom.org

Association of American Medical Colleges, Section for Student Services: www.aamc.org/students

American Osteopathic Association: www.osteopathic.org