

MEDICAL AND HEALTH PROFESSIONS

The programs of study in the following Pre-Health and Allied Health professions are not offered at Victor Valley College; however, we offer courses (prerequisites) needed for transfer into these majors and to fulfill requirements for specific allied/pre-health professions. The courses will be provided in the next few pages.

Important information about programs in the allied health and pre-health professions

In addition to a competitive GPA and a competitive score on specialized entrance examinations, programs in the allied health and pre-health professions also seek the following from competitive applicants: strong letters of recommendation, volunteer or paid experience in your specialty of interest, involvement in extracurricular activities, leadership, research (lab) experience, and strong personal statements.

VVC counselors help students plan their educational coursework to fulfill most of the requirements required by the allied health and pre-health professions schools. In addition, visit the university's website for the most updated information on admissions requirements to a particular allied health/pre-health professions program.

Allied Health Professions

Athletic Training / Exercise Science

Athletic Training is a growing profession that involves evaluation, management, and rehabilitation of athletic injuries. It is also the organization and administration of athletic training programs, as well as the education and counseling of the athlete. This program of study was recently endorsed by the American Medical Association as an allied health profession. Athletic Training programs may also be offered as an option under Kinesiology, Exercise Science, Sports Medicine, or Physical Education majors at most universities. The average GPA for students enrolling in these programs is a 3.0 GPA or better. To work as an Athletic Trainer, most careers require a minimum of a master's degree in a related field.

Common lower division courses to be completed prior to transferring to a university as an Athletic Training, Kinesiology, Exercise Science, or Physical Education Major:

BIOL 211 Human Anatomy; BIOL 231 Human Physiology; CHEM 201 General Chemistry; PHYS 221 General Physics I; MATH 120 Introduction to Statistics; PSYC 101 Introductory Psychology

For more information on athletic training or exercise science programs visit the ASSIST (<https://www.assist.org/>) website or meet with a counselor.

Dental Hygiene (RDH)

Dental hygienists provide educational and clinical services for patients, including dental health education and disease prevention procedures, obtaining and recording patients' medical and dental histories, scaling and polishing teeth, recording conditions of patients' mouths and teeth, exposing and processing dental x-ray films, nutritional counseling, and applying fluoride and pit and fissure sealants for prevention of decay. Dental Hygiene is a rapidly growing profession and is emerging as a vital, highly respected component of dental health. Before admission

into the Dental Hygiene program students must have graduated from an accredited secondary school, have a minimum of 60 semester units of transferable course work, rate sufficiently high on the Dental Hygiene Aptitude Test (DHAT), and complete prerequisite coursework with a cumulative GPA of 3.0 or better.

There are multiple California community colleges that offer an Associate of Science or Arts degree in Dental Hygiene. For more information on accredited Dental Hygiene community college programs, visit the California Dental Hygienists' Association (<https://cdha.org/Education/Dental-Hygiene-Schools/>) website.

Common lower division course requirements to be completed prior to transferring to a university as a Dental Hygiene major:

BIOL 201 Biology of Cells; BIOL 211 Human Anatomy; BIOL 221 General Microbiology; BIOL 231 Human Physiology; CHEM 100 Introductory Chemistry; CHEM 201 General Chemistry; CHEM 202 General Chemistry; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; PSYC 101 Introductory Psychology; SOC 101 Introduction to Sociology; CMST 109 Public Speaking

Additional recommended courses to complete 60 required units: BIOL 110 Introduction to Human Nutrition; CHEM 281 Organic Chemistry; MATH 120 Introduction to Statistics.

The following five California universities/colleges offer a bachelor's degree in Dental Hygiene and are accredited by the Commission on Dental Accreditation (<https://www.ada.org/en/coda/>) (CODA). Please visit their websites.

Loma Linda University - School of Dentistry

University of Southern California - Herman Ostrow School of Dentistry (<https://dentistry.usc.edu/programs/dental-hygiene/>)

University of the Pacific

West Coast University

West LA College

For more information on Dental Hygiene programs, visit the American Dental Hygienists' Association (<https://www.adha.org/>) website.

Health Care Administration (Management), Health Information Administration

Health Care Managers are involved with policy formulation, finance, administrative functions, roles of medical staff, federal and state regulation, planning and marketing, human resources and other health care management functions. Positions are typically found in hospitals, clinics, managed care organizations, long-term care facilities, and medical offices. Management and staff opportunities for graduates in this field include consulting firms, durable medical equipment companies, pharmaceutical companies, and health care information systems vendors.

Health Information Managers provide leadership in managing medical information systems that serve patients, health care providers, and administrative staff. It is an excellent career choice for the person who is seeking a health care profession that combines interests in computer science, business, management, legal procedures, and research. This unique background provides the health information administrator with a wide variety of employment opportunities. These include positions in acute care, outpatient care, long-term care, mental health facilities,

insurance companies, governmental agencies, legal offices, and with computer system vendors.

The health information manager will have opportunities to develop health information systems for quality patient care, financial reimbursement, medical research, health care planning, and security of patient information. Many health information managers also have responsibilities that include planning organizing the medical records department, budgeting department resources, determining department policies and procedures, and evaluating and motivating employees. Because information is vital to quality patient care, the health information manager interacts daily with medical, financial, and administrative staff.

Common lower division requirements for Health Care Administration (Management) and Health Information Administration programs varies greatly from school to school, but may include:

BADM 103 Financial Accounting Fundamentals; BADM 104 Managerial Accounting; ECON 101 Principles of Economics: Macro and ECON 102 Principles of Economics: Micro; BIOL 211 Human Anatomy; BIOL 221 General Microbiology; CHEM 100 Introductory Chemistry; PSYC 101 Introductory Psychology; MATH 105 College Algebra or MATH 120 Introduction to Statistics; depending on the institution, additional courses may be required.

The following universities offer these majors. Please visit their websites.

For the CSU campuses you may also visit the ASSIST (<https://assist.org/>) website for more information about specific requirements.

California State University (several campuses). Use the Search CSU Degrees (<http://degrees.calstate.edu/>) tool.

Loma Linda University - School of Allied Health Professions

Occupational Therapy (OT)

Occupational Therapists (OT) look at the psychological and social concerns, as well as physical factors, to assist physically disabled people relearn and adapt basic motor skills. Occupational Therapists use every day (occupational) activities as a means of helping those people achieve independence, focusing on critical daily tasks ranging from dressing to employment tasks. Most OT programs require the Graduate Record Examination (GRE) and a minimum cumulative GPA of a 3.0 or better. A minimum of 80 volunteer/experience hours are required with at least 60 hours being under supervision of an Occupational Therapist

Because the entrance requirements, prerequisites, and program components vary from college to college, students should consult school catalogs and websites for specific information about the programs from each college to which they plan to apply.

Common lower division requirements prior to entering most Occupational Therapy programs:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; BIOL 211 Human Anatomy; BIOL 231 Human Physiology; PSYC 101 Introductory Psychology; PSYC 110 Developmental Psychology; PSYC 213 Abnormal Psychology; MATH 120 Introduction to Statistics; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; SOC 101 Introduction to Sociology or ANTH 102 Introduction to Cultural Anthropology; CMST 109 Public Speaking; PHYS 221 General Physics I; PHYS 222 General Physics II

Additional recommended courses: Humanities/Social Sciences.

The following California schools award a Master's degree in Occupational Therapy. Please visit their websites.

CSU Dominguez Hills

Loma Linda University - School of Allied Health Professions

San Jose State University

University of Southern California - Chan Division of Occupational Science and Occupational Therapy

Dominican University of California

Samuel Merritt University

Stanbridge College

University of St. Augustine for Health Sciences - California

For more information on Occupational Therapy programs visit the American Occupational Therapy Association (<https://www.aota.org/>) website.

Occupational Therapy Assistant (OTA)

Certified Occupational Therapy Assistants (COTA) work under the guidance of occupational therapists to carry out treatment programs for many different kinds of patients. The COTA enjoys a job that uses creative, personal, and technical skills; works with people of all ages with many kinds of health problems; uses specialized job skills developed in classroom and clinical experiences; benefits from a career with excellent employment opportunities; and shares a respected position as an important member of the health care team. All colleges require a minimum GPA of 2.0 or better to apply to their COTA programs. Competitive applicants have cumulative GPAs of 2.5 or better.

Common lower division requirements prior to entering most Occupational Therapy Assistant programs:

BIOL 211 Human Anatomy; BIOL 231 Human Physiology; ENGL 101.0 English Composition and Reading; PSYC 101 Introductory Psychology; CMST 109 Public Speaking; MATH 120 Introduction to Statistics

The following California Community colleges offer Associate degrees in Occupational Therapy Assistant:

Grossmont Community College

Sacramento City College

Santa Ana Community College

Pre-Physical Therapy (DPT)

Physical Therapists evaluate neuromuscular, musculoskeletal, sensory-motor, and related cardiovascular and respiratory functions of the patient. They perform and interpret tests and measurements of these functions and abilities as an aid in the treatment of the patient.

Physical Therapy is a highly competitive program. All accredited entry level physical therapy programs are at the master's level (MS or MPT) or doctorate level (DPT). The DPT is the new educational standard for entry-level work in the field. Most universities offer the Doctorate of Physical Therapy (DPT) degree. Most programs require a student to have at least a 3.0 cumulative and prerequisite GPA, although the average GPA for accepted students may be higher. A bachelor's degree in a related field such as Biology, Kinesiology, and Athletic Training is strongly recommended. In addition, sufficiently high scores on the Graduate Record Examination (GRE), strong letters of recommendation, and paid or volunteer experience in a physical therapy setting are important in the selection process.

Common lower division requirements prior to entering most Physical Therapy programs:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; BIOL 211 Human Anatomy; BIOL 231 Human Physiology; CHEM 201 General Chemistry; CHEM 202 General Chemistry; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; MATH 120 Introduction to Statistics; MATH 226 Analytic Geometry and Calculus I (Most require MATH 120 Introduction to Statistics); PHYS 221 General Physics I; PHYS 222 General Physics II; PSYC 101 Introductory Psychology; PSYC 110 Developmental Psychology; PSYC 213 Abnormal Psychology

Highly recommended course: CHEM 281 Organic Chemistry

The following California colleges offer DPT programs accredited by the Commission on Accreditation in Physical Therapy Education (<http://www.captionline.org/home.aspx>) (CAPTE):

Azusa Pacific University
Chapman University
Loma Linda University - School of Allied Health Professions
Mount St. Mary's College
Samuel Merritt University
University of California, San Francisco
University of the Pacific
University of Southern California - Division of Biokinesiology and Physical Therapy
Western University of Health Sciences
University of St. Augustine for Health Sciences - California

California State University (CSU) Campuses
 Fresno (<http://www.fresnostate.edu/chhs/physical-therapy/>)
 Northridge (<https://www.csun.edu/health-human-development/physical-therapy/>)
 Sacramento (<https://www.csus.edu/college/health-human-services/physical-therapy/>)

For more information on physical therapy visit the American Physical Therapy Association (<http://www.apta.org/>) website.

Physical Therapist Assistant (PTA)

The physical therapist assistant is a skilled technical health worker who, under the supervision of a physical therapist, assists in the patients' treatment program. The extent to which the physical therapist assistant is involved in treatment depends upon the policies of the health facility, the supervising therapist, and the patient. Most colleges require a GPA of 2.5 or better.

Common lower division requirements prior to entering most Physical Therapy Assistant programs:

BIOL 211 Human Anatomy; BIOL 231 Human Physiology; ENGL 101.0 English Composition and Reading; MATH 90 Intermediate Algebra or higher

Additional general education and major courses are required. Please check each college's catalog or website for specific course requirements.

The following California colleges offer associate degrees in Physical Therapist Assistant:

Loma Linda University - School of Allied Health Professions
Cerritos Community College

San Diego Mesa Community College
Sacramento City College
Ohlone Community College
College of the Sequoias

Pre-Physician Assistant (PA)

A physician assistant (PA) is a skilled health care professional who, under the supervision of a physician, performs a variety of medical, diagnostic and therapeutic services. Most physician assistants routinely elicit complete medical histories and perform comprehensive physical examinations. They treat patients with common acute problems such as infections and injuries, perform minor surgical procedures, and provide ongoing care for common chronic problems such as arthritis, hypertension and diabetes. The usual program requires 24 months to complete. Most PA students earn a bachelor's degree, although an increasing number of PA programs award master's degrees upon completion of the program.

Upon graduation from an accredited PA program, students take an examination given by the National Commission on Certification of Physician Assistants (NCCPA) and achieve national certification by passing the exam. Certified Physician Assistants (PA-C) must be retested every six years. Admission into the PA programs requires a minimum of 60 semester units and most require a GPA of 3.0 or better. Universities may require completion of the Medical College Admissions Test (MCAT) or the Graduate Record Examination (GRE). Most PA programs will require a minimum of 1000 hours of related direct patient contact.

Common lower division requirements prior to entering most Physician Assistant programs:

BIOL 211 Human Anatomy; BIOL 221 General Microbiology; BIOL 231 Human Physiology; CHEM 100 Introductory Chemistry; CHEM 201 General Chemistry and CHEM 202 General Chemistry or CHEM 281 Organic Chemistry and CHEM 282 Organic Chemistry II; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; MATH 105 College Algebra; PSYC 101 Introductory Psychology; SOC 101 Introduction to Sociology or ANTH 102 Introduction to Cultural Anthropology; 9-12 units from humanities.

Highly recommended courses: BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; MATH 120 Introduction to Statistics; ALDH 139 Medical Terminology; CIS 101 Computer Literacy; SPAN 101 Elementary Spanish; SPAN 102 Elementary Spanish; CMST 109 Public Speaking

The following California universities offer master's programs in Physician Assistant (PA):

Loma Linda University - School of Allied Health Professions
Samuel Merritt
Stanford University
Tuoro University - California
University of California, Davis
University of Southern California - Keck School of Medicine
Western University of Health Sciences
Marshall B. Ketchum University

Because the requirements for each program vary slightly, students who are serious about pursuing a career as a physician assistant should consult with the catalog or website of each college/university for which they plan to apply.

For more information on Physician Assistant programs visit the American Academy of PA's (<https://www.aapa.org/>) website.

Radiologic Technology

The radiologic technologist (x-ray technician) is responsible for the accurate demonstration of body structures on a radiograph or other receptor. The technologist determines proper exposure factors, manipulates medical imaging equipment, evaluates the radiographic quality, and provides for patient protection and comfort. Most radiologic technology programs are two-year programs with students earning an associate degree upon completion of the program. Radiologic technologists may choose to train further in the areas of medical sonography, nuclear medicine technology, radiation therapy technology, and special imaging technology.

Entrance requirements vary slightly from college to college. Students should visit the websites for each college to which they plan to apply. Students are highly encouraged to complete the following prerequisite courses before transfer into the below colleges/universities. Please visit their respective websites.

Chaffey College

Radiologic Technology, AS
ALDH 139 Medical Terminology; BIOL 211 Human Anatomy; BIOL 231 Human Physiology; and CHEM 100 Introductory Chemistry or PHYS 100 Introductory Physics. Meet with a Chaffey College counselor for additional requirements. A cumulative 2.8 GPA of higher is required for application for the program.

Loma Linda University - School of Allied Health Professions

Medical Radiography, AS
ALDH 139 Medical Terminology; BIOL 211 Human Anatomy; BIOL 231 Human Physiology; CHEM 100 Introductory Chemistry or PHYS 100 Introductory Physics; ENGL 101.0 English Composition and Reading and ENGL 102.0 Composition and Literature; MATH 90 Intermediate Algebra or higher; PSYC 101 Introductory Psychology or SOC 101 Introduction to Sociology; CMST 109 Public Speaking; CIS 101 Computer Literacy or High School Computer, and Foreign Language. Elective units to complete course requirements may be necessary. Applicants must have a 3.0 cumulative GPA to be considered.

For more information on Radiologic Technology visit the American Society of Radiologic Technologists (<https://www.asrt.org/>) website.

Speech-Language Pathology and Audiology/ Communicative Disorders

Speech-language pathologists are concerned with evaluating and treating children and adults with communication disorders. Difficulties in the areas of speech, language, fluency, and voice are associated with a variety of disorders, including developmental delay, hearing impairment, cleft palate, cerebral palsy, stroke, and head injury. Audiologists are concerned with prevention, identification, assessment, and rehabilitation of hearing disorders. For both professions, it is important that the student have an interest in working with people.

The following California colleges offer bachelor's degrees or master's degrees in Speech Pathology and/or Audiology:

Biola University

California State University (several campuses). Use the Search CSU Degrees (<http://degrees.calstate.edu/>) tool.

Loma Linda University - School of Allied Health Professions

University of Redlands

Check universities' catalogs or websites for specific course requirements.

Pre-Health Professions

Pre-Chiropractic (DC)

Chiropractic Medicine places the emphasis on spinal manipulation and neuromuscular treatments as the means of restoration and preservation of health. Chiropractors diagnose health problems, provide care and consult with other health care providers. Prior to enrolling, applicants must have completed a minimum of 90 semester units, applicable to a bachelor's degree, with a minimum cumulative GPA of a 2.5 on a 4.0 scale or better.

Common lower division course requirements to be completed prior to beginning a program in chiropractic medicine:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; CHEM 201 General Chemistry; CHEM 202 General Chemistry; CHEM 281 Organic Chemistry; CHEM 282 Organic Chemistry II; PHYS 221 General Physics I; PHYS 222 General Physics II; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; PSYC 101 Introductory Psychology

Highly recommended courses: BIOL 221 General Microbiology; BIOL 231 Human Physiology; PHYS 201 Engineering Physics I-Mechanics; CMST 109 Public Speaking; MATH 105 College Algebra

Additional recommended courses: 15 additional units from Social Sciences and/or Humanities

The following four schools are the only California colleges accredited by the American Chiropractic Association (<https://www.acatoday.org/>). Please visit their websites.

Life Chiropractic College West

Southern California University of Health Sciences

Palmer College of Chiropractic

For more information on chiropractic colleges visit the International Chiropractors Association (<http://www.chiropractic.org/>) website.

Pre-Dentistry (DDS/DMD)

Dentists provide comprehensive dental treatment to patients including oral and maxillofacial surgery, endodontics, orthodontics, and restorative processes.

Because most of the applicants being admitted to dental schools possess a bachelor's degree, students are advised to integrate the dental school requirements into a program that will lead to a bachelor's degree in a major of their choice. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to medical school. There are Dental Schools which consider 90 semester units (60 units lower division and 30 units of upper division coursework) with a very competitive grade point average (GPA). The average GPA for accepted students to U.S. dental schools is a 3.5. In addition a score sufficiently high on the Dental Admission Test (DAT) is required along with course prerequisites. Extracurricular activities (community/campus), research, and clinical experience are highly encouraged to become a competitive applicant. The American Dental Education Association (<https://www.adea.org/>) website is a good resource for more information.

Common lower division course requirements to be completed prior to entering dentistry schools:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; BIOL 211 Human Anatomy; BIOL 221 General Microbiology; BIOL 231 Human Physiology; CHEM 201 General Chemistry; CHEM 202 General Chemistry; CHEM 206 Introductory Chemistry II: Organic Chemistry and CHEM 207 Introductory Chemistry III: Biochemistry; or CHEM 281 Organic Chemistry and CHEM 282 Organic Chemistry II (recommended); ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; MATH 226 Analytic Geometry and Calculus I; PHYS 221 General Physics I; PHYS 222 General Physics II; PSYC 101 Introductory Psychology; CMST 109 Public Speaking

Additional highly recommended courses: 11 units in Social Sciences/Humanities/Foreign Language. Algebra/Calculus/Statistics, Accounting/Economics, Technical Writing, Sociology/Anthropology, Business Management, and Ceramics/Sculpture.

The following six California schools offer a Doctor of Dental Surgery (DDS) and are the only California universities accredited by the Commission on Dental Accreditation (<https://www.ada.org/en/coda/>) (CODA). Please visit their websites.

Loma Linda University - School of Dentistry
University of California, Los Angeles
University of the Pacific
University of California, San Francisco
University of Southern California - Herman Ostrow School of Dentistry
Western University of Health Sciences

For more information on dentistry schools visit the American Dental Association (<https://www.ada.org/en/>) website.

Pre-Medicine (MD) and Pre-Osteopathic Medicine (DO)

Doctors of Medicine manage the diagnosis, treatment, and prevention of disease and injuries of individuals to restore them back to optimal health. Treatment may include surgery, various treatment methods, conferring with other specialists, and prescribing appropriate drugs. Physicians also research the causes, transmission, and control of diseases and other ailments.

Medicine is a highly competitive field and acceptance into medical school is based on a combination of preparatory courses completed, letters of recommendation, sufficiently high scores on the Medical College Admissions Test (MCAT), and GPA. Most students who are admitted into medical school have a bachelor's degree; therefore, a bachelor's degree is highly recommended. Since requirements for medical school places emphasis on biology and chemistry, most students choose to pursue a bachelor's degree in biology or chemistry. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to medical schools. The average GPA for accepted students to U.S. medical schools is a 3.6. Extracurricular activities (community/campus), research, and clinical experience are highly encouraged to become a competitive applicant.

A handout entitled "Premedical Course Preparation for California Medical School Programs" is available from the VVC Counseling department. Students should also consult school catalogs, websites, and the Medical School Admission Requirements: U.S. and Canada, (MSAR) published by the Association of American Medical Colleges (AAMC) for

specific requirements. A copy of the MSAR is available for purchase at www.aamc.org (<http://www.aamc.org>)

Common lower division course requirements to be completed prior to entering medical schools:

BIOL 201 Biology of Cells, BIOL 202 Biology of Organisms; CHEM 201 General Chemistry, CHEM 202 General Chemistry, CHEM 281 Organic Chemistry, CHEM 282 Organic Chemistry II; ENGL 101.0 English Composition and Reading, ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; MATH 226 Analytic Geometry and Calculus I, MATH 227 Analytic Geometry and Calculus II; PHYS 221 General Physics I, PHYS 222 General Physics II

Additional highly recommended courses: CHEM 206 Introductory Chemistry II: Organic Chemistry, CHEM 207 Introductory Chemistry III: Biochemistry; CIS 101 Computer Literacy; SPAN 101 Elementary Spanish, SPAN 102 Elementary Spanish; PSYC 101 Introductory Psychology or SOC 101 Introduction to Sociology; CMST 106 Interpersonal Communication or CMST 109 Public Speaking

A minimum of 90 semester units, at least 20 of which must be upper division from a four-year university.

The following eight medical schools in California offer a Doctor of Medicine (MD) degree and are accredited by the Liaison Committee on Medical Education (LCME) of the American Medical Association (AMA):

Loma Linda University - School of Medicine
Stanford University - Medicine (<https://med.stanford.edu/>)
University of Southern California - Keck School of Medicine (<https://keck.usc.edu/>)
Tuoro University - College of Osteopathic Medicine in California (<http://com.tu.edu/>)
Western University of Health Sciences College of Osteopathic Medicine of the Pacific

University of California Campuses

University of California, Davis - School of Medicine
University of California, Irvine - School of Medicine (<http://www.som.uci.edu/>)
University of California, Los Angeles - David Geffen School of Medicine (<https://medschool.ucla.edu/>)
University of California, Riverside - School of Medicine (<https://medschool.ucr.edu/>)
University of California, San Diego - School of Medicine (<https://medschool.ucsd.edu/Pages/default.aspx>)
University of California, San Francisco - School of Medicine

For more information on medical schools visit the Association of American Medical Colleges (<https://www.aamc.org/>) website.

Pre-Optometry (OD)

Optometry is a health care profession that focuses on the prevention and remediation of disorders of the vision system. Optometrists examine, diagnose and treat eye diseases, determine appropriate prescriptions for glasses and contacts, and handle the overall eye care of a patient.

Entrance into the Doctor of Optometry degree completion of a minimum of 90 units of which 20 must be from a four-year university. Because admission has become increasingly more difficult, having completed the equivalent of a bachelor's degree is now imperative for the three California Schools of Optometry. While many successful applicants

major in one of the natural sciences, a science major is NOT required for admission to optometry schools. Besides the bachelor's degree being important, a high score on the Optometry Admission Test (OAT) and a high GPA is recommended for preliminary screening. The average cumulative GPA for accepted students to U.S. optometry schools ranges from a 3.0 to 3.7. It is highly recommended that you obtain experience with an optometrist prior to applying.

Common lower division course requirements for most schools of optometry:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; BIOL 221 General Microbiology; CHEM 201 General Chemistry; CHEM 202 General Chemistry; CHEM 281 Organic Chemistry; CHEM 282 Organic Chemistry II; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; MATH 120 Introduction to Statistics; MATH 226 Analytic Geometry and Calculus I; MATH 227 Analytic Geometry and Calculus II; PHYS 221 General Physics I; PHYS 222 General Physics II; PSYC 101 Introductory Psychology; PSYC 110 Developmental Psychology, PSYC 204 Social Psychology, or PSYC 213 Abnormal Psychology.

University of California, Berkeley also requires the additional courses: ENGL 245 Survey of British Literature Early Medieval-Neoclassics or ENGL 246 Survey of British Literature Romantic Period to 20th Century

The following California schools offer programs leading to a Doctor of Optometry (O.D.) degree:

Marshall B. Ketchum University - Southern California College of Optometry (<https://www.ketchum.edu/optometry/>)
University of California, Berkeley - School of Optometry (<https://optometry.berkeley.edu/>)

Western University of Health Sciences - College of Optometry

For more information on schools of optometry visit the Association of Schools and Colleges of Optometry (<https://optometriceducation.org/>) website.

Pre-Osteopathic Medicine (DO) (also see Medicine)

A Doctor of Osteopathic Medicine (D.O.) diagnoses and treats diseases and injuries of the human body, relying upon accepted medical and surgical modalities. The emphasis of osteopathic medicine is holistic medicine.

While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to osteopathic medical school. Entrance into the intense four-year program is based on a minimum requirement of 90 semester units or 3/4 toward a bachelor's degree, a high score on the Medical College Admissions Test (MCAT), and a high GPA. The average GPA for accepted students to U.S. osteopathic medical schools is a 3.45. Extracurricular activities (community/campus), research, and clinical experience are highly encouraged to become a competitive applicant.

Common lower division requirements requirements prior to entering most osteopathic medical schools:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; CHEM 201 General Chemistry; CHEM 202 General Chemistry; CHEM 281 Organic Chemistry; CHEM 282 Organic Chemistry II; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; PHYS 221 General Physics

I; PHYS 222 General Physics II; MATH 226 Analytic Geometry and Calculus I; MATH 227 Analytic Geometry and Calculus II

Highly recommended courses: BIOL 221 General Microbiology; MATH 120 Introduction to Statistics. Social Sciences, Humanities, Languages, and computer skills are also recommended: PSYC 101 Introductory Psychology, SOC 101 Introduction to Sociology, or ANTH 102 Introduction to Cultural Anthropology; SPAN 101 Elementary Spanish; SPAN 102 Elementary Spanish; CIS 101 Computer Literacy; PHIL 101 Introduction to Philosophy.

The following California schools offer programs leading to a Doctor of Osteopathic Medicine (D.O.) degree:

Western University of Health Science - College of Osteopathic Medicine of the Pacific
Tuoro University - College of Osteopathic Medicine in California

For more information on osteopathic medical programs visit the American Association of Colleges of Osteopathic Medicine (<https://www.aacom.org/>) website.

Pre-Pharmacy (PharmD)

A pharmacist compounds and dispenses prescribed medications, drugs, and other pharmaceuticals for patient care, closely following professional standards and state and federal legal requirements.

Admission to schools of pharmacy is highly competitive. Schools of Pharmacy offering the Doctor of Pharmacy generally require the completion of a minimum of 60 semester units of pre-pharmacy coursework. Most students who are admitted into pharmacy schools have a bachelor's degree; therefore, a bachelor's degree is highly recommended. Since requirements for pharmacy school places emphasis on biology and chemistry, most students choose to pursue a bachelor's degree in biology or chemistry. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to medical school. The average GPA for accepted students to U.S. pharmacy schools ranges from 3.2 to 3.7. Volunteer/work experience in the field of pharmacy is highly encouraged. Two to three letters of recommendation are required by pharmacy schools. California schools do not require the Pharmacy College Admission Test (PCAT), but more than half of out-of-state pharmacy schools do. Chapman University is the only California school that requires the PCAT

Common lower division requirements prior to entering most pharmacy schools:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; BIOL 211 Human Anatomy; BIOL 231 Human Physiology; CHEM 201 General Chemistry; CHEM 202 General Chemistry; CHEM 281 Organic Chemistry; CHEM 282 Organic Chemistry II; ECON 101 Principles of Economics: Macro or ECON 102 Principles of Economics: Micro; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; MATH 226 Analytic Geometry and Calculus I; MATH 227 Analytic Geometry and Calculus II; PHYS 221 General Physics I; PHYS 222 General Physics II; PSYC 101 Introductory Psychology, SOC 101 Introduction to Sociology, or ANTH 102 Introduction to Cultural Anthropology; CMST 109 Public Speaking

Highly recommended courses: BIOL 221 General Microbiology; CIS 101 Computer Literacy; and Foreign Language.

Additional recommended courses: Humanities/Fine Arts (6-12 units) and Social/Behavioral Sciences (6-12 units) are required depending on the school.

The following California colleges offer Doctor of Pharmacy (PharmD) degrees:

University of the Pacific - Thomas J. Long School of Pharmacy
University of Southern California - School of Pharmacy
University of California, San Diego - Skaggs School of Pharmacy and Pharmaceutical Sciences
University of California, San Francisco - School of Pharmacy
Loma Linda University - School of Pharmacy
Western University of Health Sciences - College of Pharmacy
Tuoro University - California College of Pharmacy
California Northstate University - College of Pharmacy
Chapman University - School of Pharmacy

For more information on schools of pharmacy visit the American Association of Colleges of Pharmacy (<https://www.aacp.org/>) website.

Pre-Podiatry (DPM)

Podiatry is a specialty in medicine and surgery. A podiatrist is concerned with the prevention, diagnosis, and treatment of diseases and disorders which affect the human foot and contiguous structures. Students must complete a minimum of 60-90 units before transfer with a GPA of 3.0 or better, take the Medical College Admissions Test (MCAT), and meet the following lower division course requirements for transfer.

Common lower division requirements prior to entering most podiatry schools:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; CHEM 201 General Chemistry; CHEM 202 General Chemistry; CHEM 281 Organic Chemistry; CHEM 282 Organic Chemistry II; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; CMST 109 Public Speaking; PHYS 221 General Physics I; PHYS 222 General Physics II; MATH 226 Analytic Geometry and Calculus I

Highly recommended courses: BIOL 211 Human Anatomy; BIOL 221 General Microbiology; BIOL 231 Human Physiology; MATH 227 Analytic Geometry and Calculus II; and 2 elective units in Humanities/Social Sciences.

The following California universities offer Doctor of Podiatry Medicine (DPM) programs.

Samuel Merritt University (<https://www.samuelmerritt.edu/programs/doctor-podiatric-medicine/>)

Western University of Health Sciences - College of Podiatric Medicine

For more information on Podiatry programs visit the California Podiatric Medical Association (<https://calpma.org/>) and American Association of Colleges of Podiatric Medicine (<https://www.aacpm.org/>) websites.

Pre-Veterinary Medicine (DVM)

Veterinary medicine is the health profession that deals with the scientific knowledge and decision-making process that culminate in the diagnosis, treatment and prevention of animal diseases. The profession is concerned with enhancing the health, welfare, productivity and utility of animals as well as with the safety of animal products used by people.

Students completing a veterinary medicine program approved by the Board of Examiners in Veterinary Medicine earn a Doctorate of Veterinary Medicine (DVM).

Veterinary medicine is a highly competitive program. Acceptance to this program is based on GPA, scores on the Graduate Record Examination (GRE) or Medical College Admissions Test (MCAT) and any additional examinations, and completion of a minimum of 72 semester units from an accredited college. The average required GPA for U.S. veterinary schools varies by school, from a low 2.5 to a high 3.5. Those who receive offers for admission often have a GPA of 3.5 or better, and have between 500 to 2000 hours of clinical veterinary experience.

As with many specialized medical programs, applicants who have earned a bachelor's degree are highly desirable and more competitive in the admission process. While many successful applicants major in one of the natural sciences, a science major is NOT required for admission to veterinary school.

Common lower division requirements prior to entering most veterinary schools:

BIOL 201 Biology of Cells; BIOL 202 Biology of Organisms; BIOL 221 General Microbiology; CHEM 201 General Chemistry; CHEM 202 General Chemistry; CHEM 206 Introductory Chemistry II: Organic Chemistry; CHEM 281 Organic Chemistry; CHEM 282 Organic Chemistry II; ENGL 101.0 English Composition and Reading; ENGL 102.0 Composition and Literature or ENGL 104 Critical Thinking & Composition; MATH 120 Introduction to Statistics; PHYS 221 General Physics I; PHYS 222 General Physics II

Highly recommended courses: CHEM 207 Introductory Chemistry III: Biochemistry; PSYC 101 Introductory Psychology; SOC 101 Introduction to Sociology or ANTH 102 Introduction to Cultural Anthropology, and 9 units of Humanities courses

The following California Universities offer programs leading to a Doctor of Veterinary Medicine (D.V.M.)

University of California, Davis - Veterinary Medicine
Western University of Health Sciences - College of Veterinary Medicine

For more information on veterinary schools visit the American Veterinary Medical Association (<https://www.avma.org/>) and Association of American Veterinary Medical Colleges (<https://catalog.vvc.edu/degrees-certificates/medical-health-professions/www.aavmc.org>) websites.