ADMITTING & DISCHARGE CLERK

Admitting and Discharge Clerks perform a variety of clerical and administrative tasks related to patient admission and discharge. Some of their primary responsibilities include collecting personal information from new patients, ensuring proper insurance information is provided, and recording relevant medical history. When patients are discharged, these clerks make sure that all entries in the patient's medical record are accurate and complete. Other duties may include assigning beds based on diagnosis and condition, sending patient charts to the nursing units, using computers to compile information more proficiently, and providing patients with identification wristbands for safety and security purposes. Admitting and discharge clerks must also abide by the Health Insurance Portability and Accountability Act (HIPAA), which protects patient confidentiality.

Work Environment:

Admitting and discharge clerks may work in a number of different health care delivery facilities, such as hospitals, clinics, insurance companies, doctor's offices, local or state health departments, group medical practices, and medical research departments.

Salary:

Average Annual Salary: $26,000
Salary Range : $17,900 - $35,100

Professional Organizations:

American Health Information Management Association
http://www.ahima.org/

High School Preparation:

Individuals should take high school courses in algebra, biology, office procedures, social studies, health occupations/medical professions education, computer skills, typing, literature, English, sociology, psychology, anatomy, government, history, and data processing. As for college requirements, most employers prefer individuals with some college coursework in a health related area and/or general office procedures and 1-2 years of experience. While there is no formal certification required, some clerks may be Certified Medical Assistants (CMA) or Registered Health Information Technicians (RHIT).

Career Outlook:

Employment opportunities for admitting and discharge clerks should be good over the next decade. The aging baby-boom generation will increase the number of patients that hospitals and clinics will have to process, which will increase the demand for these administrative professionals. There will also be an increase in the number of job openings due to people retiring or leaving the profession for other careers. Because this is an entry-level position, and turnover in this sector remains fairly high, job opportunities should climb steadily over the next 10 - 15 years.

Schools in Texas:

Alamo Community Colleges
http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Cisco College
http://www.cisco.edu/s/926/start.aspx

College of the Mainland
http://www.com.edu/degrees-programs/degrees-certifications.php

Dallas County Community College
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Howard College
http://www.howardcollege.edu/

Lamar State College – Orange
http://www.lsco.edu/alliedhealth/alliedhealth.asp

Lamar State College – Port Arthur
http://www.lamarpa.edu/?url=/dept/ah/index.html

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lone Star College
http://lonestar.edu/programs-classes.htm

McLennan Community College
http://www.mclennan.edu/students/admissions/aprog.html

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=73&pid=3

Panola College
http://www.panola.edu/healthscience/

Paris Junior College
http://www.parisjc.edu/index.php/pjc/content-pjc/programs-of-study/

Richland College
http://www.richlandcollege.edu/hp/

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Texas State Technical College
http://harlingen.tstc.edu/Careers/HealthAndSciences.aspx

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Victoria College
http://www.victoriacollege.edu/healthcareers

ADVANCE PRACTICE NURSE

There are over 150,000 advanced practice nurses taking a new role in delivering timely, cost-effective, quality health care, especially to chronically underserved populations such as the elderly, the poor, and those in rural areas. Some of the primary and preventive care traditionally done by doctors can and is be done by an advance practice nurses. With an emphasis on health promotion and disease prevention, advanced practice nurses form a critical link in the solution to America's health care crisis. Advanced practice nurses can specialize in a number of clinical areas. Some of these areas include “family practice,” “midwifery”, and “anesthesia” but these fields always require a BSN. The BSN degree can be obtained in a traditional four-year program or two-year transition program from an Associate Degree in Nursing (RN to BSN). Most advanced practice nurse programs require several years of employment before the RN be accepted into the program.

Advanced degrees include Master’s in Nursing, Clinical Nurse Specialists, Nurse Practitioners, Midwifery, Nurse Anesthetist, or the Ph. D. program (prepares graduates for teaching, research, or leadership positions). There are even joint programs that combine law, business, or other fields with nursing. The advanced practice nurse is a term given to a registered nurse who has met advanced educational and clinical practice requirements beyond the 2 - 4 years of basic nursing education required of all RNs. Under this term fall four principal types of advanced practice nurses:

Nurse Practitioner (NP):

Nurse Practitioners number over 45,000 and most of the approximately 150 NP education programs in the United States today confer a master's degree. At least 36 states require NPs to be nationally certified by the ANA or a specialty nursing organization. They are working in clinics, nursing homes, hospitals, or their own offices. NPs are qualified to handle a wide range of basic health problems. Most have a specialty -- for example, adult, family, or pediatric health care. NPs conduct physical exams, take medical histories, diagnose and treat common acute minor illnesses or injuries, order and interpret lab tests and X-rays, and counsel and educate clients. In 48 states, they may prescribe medication according to state law. Some work as independent practitioners and can be reimbursed by Medicare or Medicaid for services rendered. Others work for hospitals, health maintenance organizations (HMOs), or private industry.

Certified Nurse Midwife (CNM):

Certified Nurse Midwife currently number over 7,000, and average one and one-half years of specialized education beyond nursing school in an accredited certificate program or at the master's level. CNMs provide well-woman gynecological and low-risk obstetrical care including prenatal, labor and delivery, and post-partum care. In 1990, CNMs delivered 148,728 babies, or about 3.6 percent of all U.S. births that year, in hospitals, birth centers, and homes. An ANA meta-analysis of CNM care found that nurse-midwives performed fewer fetal monitors, episiotomies, and forceps deliveries, administered fewer IVs, delivered fewer low birth weight and premature infants, and had shorter patient hospital stays. CNMs have prescriptive authority in more than 33 states. Their annual salary is over $50,000 depending on the region in the US.

Clinical Nurse Specialist (CNS):

Clinical Nurse Specialists number about 56,000, and are registered nurses with advanced nursing degrees (master's or doctoral) who are experts in a specialized area of clinical practice such as mental health, gerontology, cardiac or cancer care, and community or neonatal health. CNSs work in hospitals, clinics, nursing homes, their own offices, and other community-based settings, such as industry, home care and HMOs. Qualified to handle a wide range of physical and mental health problems, CNSs provide primary care and psychotherapy. They conduct health assessments, make diagnoses, deliver treatment, and develop quality control methods. Besides delivering direct patient care, CNSs work in consultation, research, education, and administration. Some work independently or in private practice and can be reimbursed by Medicare, Medicaid, Champus, and private insurers. Their annual average salary is over $49,000 depending on the region in the US.

Certified Registered Nurse Anesthetist (CRNA):

The Certified Registered Nurse Anesthetist numbers over 24,000. They are registered nurses who complete 2 - 3 years higher education beyond the required four-year bachelor's degree, as well as meeting national certification and re-certification requirements. They administer more than 65 percent of all anesthetics given to patients each year, and are the sole providers of anesthetics in 85 percent of rural hospitals. They sometimes work with an MD anesthesiologist, but frequently independently, these nurse specialists work in almost every setting in which anesthesia is given operating rooms, dentist's offices, ambulatory surgical settings. Their annual salary ranges from $79,500 - $95,000.

Advanced practice nurses will enjoy an expanding job market. Contact each program for detailed prerequisite and admission information.

Texas Programs:

Abilene Christian University
http://www.phssn.edu/

Angelo State University
http://www.angelo.edu/dept/nursing/programs.html

Baylor College of Medicine
http://www.bcm.edu/gpna/

Baylor University
http://www.baylor.edu/nursing_grad/splash.php

Hardin-Simmons University
http://www.hsutx.edu/academics/phssn/

Lamar University
http://dept.lamar.edu/nursing/

Midwestern State University
http://hs2.mwsu.edu/nursing/

Prairie View A&M University
http://www.pvamu.edu/pages/290.asp

Texas A&M – Corpus Christi
http://conhs.tamucc.edu/

Texas A&M Health Science Center
http://nursing.tamhsc.edu/

Texas Christian University
http://www.hsn.tcu.edu/

Texas Tech University
http://www.depts.ttu.edu/pphc/areas/Nursing.php

Texas Tech University Health Sciences Center
http://www.ttuhsc.edu/son/programs.aspx

Texas Wesleyan University
http://www.txwes.edu/nurseanesthesia/index.htm

Texas Woman's University
http://www.twu.edu/nursing/

UT - Arlington
http://stateu.com/uta/ProgramInfo.aspx?id=260

UT - Austin
http://www.utexas.edu/nursing/html/academics/msn.html

UT - El Paso
http://academics.utep.edu/Default.aspx?alias=academics.utep.edu/son

UT – Health Science Center at Houston
http://son.uth.tmc.edu/

UT - Health Science Center at San Antonio
http://nursing.uthscsa.edu/

UT Medical Branch
http://son.utmb.edu/

UT - Pan American
http://portal.utpa.edu/portal/page/portal/utpa_main/daa_home/hshs_home/hshs_nursing/

UT - Tyler
http://www.uttyler.edu/nursing/

University of the Incarnate Word
http://www.uiw.edu/snhp/

West Texas A&M University
http://www.wtamu.edu/academics/college-nursing.aspx

ANESTHESIOLOGIST ASSISTANT

The anesthesiologist assistant functions as a specialty physician assistant under the direction of a licensed and qualified anesthesiologist, principally in medical centers. The anesthesiologist assistant assists the anesthesiologist in developing and implementing the anesthesia care plan. This may include collecting preoperative data, such as taking an appropriate health history; performing various preoperative tasks, such as the insertion of intravenous and arterial catheters and special catheters for central venous pressure monitoring, if necessary; performing airway management and drug administration for induction and maintenance of anesthesia; assisting in the administering and monitoring of regional and peripheral nerve blockade; administering supportive therapy, for example, with intravenous fluids and cardiovascular drugs; adjusting anesthetic levels on a minute-to-minute basis; performing intra-operative monitoring; providing recovery room care; and functioning in the intensive care unit. The anesthesiologist assistant may also be used in pain clinics or may participate in administrative and educational activities.

In addition, anesthesiologist assistants provide other support according to established protocols. Such activities may include pre-testing anesthesia delivery systems and patient monitors and operating special monitor and support devices for critical cardiac, pulmonary, and neurological systems. Anesthesiologist assistants may be involved in the operation of bedside electronic computer-based monitors and have supervisory responsibilities for laboratory functions associated with anesthesia and operating room care. They provide cardiopulmonary resuscitation in association with other anesthesia care team members and in accordance with approved emergency protocols.

Anesthesiologist Assistants work as members of the anesthesia care team in any locale where they may be appropriately directed by legally responsible anesthesiologists. The anesthesiologist assistants most often work within organizations that also employ nurse anesthetists, and the responsibilities are identical. Experience to date has been that anesthesiologist assistants are most commonly employed in larger facilities that perform procedures such as cardiac surgery, neurosurgery, transplant surgery, and trauma care, given the training in extensive patient monitoring devices and complex patients and procedures emphasized in anesthesiologist assistant educational programs.

Salary Range: $85,000 - $130,000

Educational Requirements:

Educational programs are post baccalaureate programs that are essentially 24 to 27 months in length. The programs require an undergraduate premedical background (premedical courses in biology, chemistry, physics, and math). Majors typically are biology, chemistry, physics, mathematics, computer science, or one of the allied health professions, such as respiratory therapy, medical technology, or nursing.

Associated Affiliations:

American Academy of Anesthesiologist Assistants
www.anesthetist.org

Anesthesiologist Assistant Programs:

Case Western Reserve University
http://www.anesthesiaprogram.com/default.htm

Emory University School of Medicine
http://www.med.emory.edu/education/aa_program/

Nova Southeastern University
http://www.nova.edu/cah/healthsciences/anesthesia/fort_lauderdale/index.html

South University
http://www.southuniversity.edu/anesthesiologist-assistant-program.aspx

University of Missouri – Kansas City
http://www.med.umkc.edu/MSA/

AUDIOLOGIST
(SPEECH PATHOLOGIST)

Audiologists and Speech Pathologists specialize in prevention, diagnosis, and treatment of speech, language, and hearing problems. Audiology and Speech Pathology developed out of concern for people with speech and hearing disorders. Audiologists and Speech Language Pathologists (speech therapists, as they have formerly been called) devote themselves to helping both children and adults overcome speech and hearing problems.

Because speech and hearing are so interrelated, Audiologists and Speech Pathologists work closely with each other, as well as with other professionals and as consultants to educational, medical and other professional groups. Speech Pathologists primarily specialize in helping people with problems of speech, language and voice disorders. They primarily diagnose and evaluate the individual's speech and language ability, then plan, direct and conduct a treatment program to restore or develop patient's communication skills. Audiologists concentrate on individuals with hearing problems they assess the type and degree of hearing impairment, then plan, direct and conduct aural rehabilitation and training programs.

Speech Pathologists and Audiologists may advance to administrative or supervisory positions such as clinic director or coordinator of clinical services. They may also become professors or department heads in colleges or universities, or choose to engage in research activities. Professional mobility is generally based on experience, skills, and level of education.

A person entering this work must have academic ability and intellectual curiosity. One must have an interest in people and the ability to approach problems with a scientific attitude.

Average Salary: $40,000 - $55,000

Educational Requirements:

A number of professional degree programs in Speech Pathology or Audiology are available. The American Speech Language and Hearing Association certification requires master's level training and 1 year experience in addition to successful completion of a national exam.

Pre-professional course work should provide a broad liberal arts background, including biology, anatomy, physiology, physics, general psychology, child and adolescent psychology, sociology, and anthropology.

Associated Affiliations:

American Speech-Language-Hearing Association
http://www.asha.org/default.htm

Audiology.com
http://www.audiology.com/

Texas Colleges:

Abilene Christian University
http://www.acu.edu/academics/cehs/programs/comm_disorders/index.html

Baylor University
http://www.baylor.edu/csd/

Lamar University
http://dept.lamar.edu/cofac/deptdeaf/

Our Lady of the Lake University
http://www.ollusa.edu/s/1190/ollu.aspx?sid=346&gid=1&pgid=1720

Southwest Texas State University
http://www.health.txstate.edu/cdis/

Stephen F. Austin State University
http://www.sfasu.edu/education/departments/humanservices/programs/speechpath/

Texas A&M University - Kingsville
http://www.tamuk.edu/biology/hub/index.asp

Texas Christian University
http://www.admissions.tcu.edu/academics/new_mm.asp?id=27

Texas Tech University Health Sciences Center
http://www.ttuhsc.edu/sah/cdu/

Texas Woman's University
http://www.twu.edu/communication-sciences/

University of Houston
http://comd.uh.edu/

University of Texas at Austin
http://csd.utexas.edu/

University of Texas at El Paso
http://academics.utep.edu/Default.aspx?tabid=8707

University of North Texas
http://speechandhearing.unt.edu/

University of Texas at Dallas
http://www.utdallas.edu/calliercenter/

University of Texas - Pan American
http://portal.utpa.edu/utpa_main/daa_home/hshs_home/comm_home

West Texas A&M University
http://www.wtamu.edu/academics/communication-disorders.aspx

BIOLOGICAL RESEARCH SCIENTIST

Biological & Research Scientists are involved in a variety of health related fields. They study reproduction, diseases, drugs, microorganisms, environment, growth & development, & other aspects of living organisms in an effort to prolong life & prevent illness. Some of these scientists study illnesses such as cancer, heart disease, arthritis, & genetic diseases in order to understand their causes & prevent them from occurring. Others perform research to determine the effect of food, drugs, nutrients, hormones, & other substances on tissues and processes of living things.

Some specialties in this field include:

- Geneticist - study characteristics & inherited traits of humans & animals;
- Epidemiologist - study causes, spread of diseases among populations, & ways to prevent or control diseases;
- Microbiologist - study bacteria & other microscopic organisms to prevent diseases;
- Immunologists - study ways in which humans and other organisms resist illnesses;
- Pharmacologist - analyzes the effects of drugs on human and animal tissue.

Research scientists are highly proficient in mathematics & science. They must be skilled in laboratory setting. They have an advanced degree & supervise small staffs of assistants/ technicians. Patient interaction is low but the job requires a high level of motivation & self-discipline.

Work Environment:

The majority of biological & research scientists work in a laboratory setting & may be employed by pharmaceutical companies, chemical plants, research facilities, hospitals, government facilities, biomedical industries, or colleges & universities.

Salary:

Average Annual Salary: $44,800
Salary Range: $29,100 - $90,200

Professional Organizations:

American College of Epidemiology
http://www.acepidemiology.org/

American Institute of Biological Sciences
http://www.aibs.org/home/index.html

American Physiology Society
http://www.the-aps.org/

American Society for Biochemistry & Molecular
www.asbmb.org

High School Preparation:

High school students interested in becoming a research scientist should concentrate on courses in biology, chemistry, physics, algebra, calculus, geometry, trigonometry, English, literature, physical education, computer skills, sociology, and health occupations/medical professions education.

College Requirements:

Individuals interested in a career in biological and research science must have a minimum of a bachelor's degree in a specific specialty. Individuals with this level of education can only work in non-research positions. Anyone interested in conducting research must obtain a master's degree and in most cases a doctoral degree is required to conduct advanced research. Only individuals with a Ph.D. can teach at the university level or advance to administrative positions.

Career Outlook:

The career outlook for biological and research scientists is going to be excellent over the next decade with an expected growth of 10% - 20% in the job market. Doctoral degree holders will command the highest salary, but will face considerable competition for basic research positions as the federal government tightens its budget in many areas of medical research. Individuals with a bachelor's or master's degree will find excellent opportunities in non-research areas such as marketing, sales, and research management. Research scientists are also less likely to lose their jobs during recession than those in many other occupations because many are employed on long-term research projects.

Texas Schools:

Southwestern Medical Center
http://www.utsouthwestern.edu/graduateschool/

The University of Texas Medical Branch
http://www.bmb.utmb.edu/research/systemsbio.htm

Univ. Of North Texas HSC
http://www.hsc.unt.edu/education/gsbs/biomedical.cfm

UT Health Science Center At San Antonio
http://gsbs.uthscsa.edu/main/academics/overview.asp

BIOMEDICAL ENGINEER

Biomedical Engineers apply their knowledge of physical science & engineering in an effort to design & develop life-support devices & other medical equipment that can assist health care professionals in improving the quality of life of patients. They plan & conduct research concerning biological, psychological, behavioral, & other life systems that affect the health of patients. Biomedical engineers develop mathematical models & computer simulations in order to better understand the life processes that affect our health. Some of the devices & instruments that they design & develop are pacemakers, artificial limbs & organs, laser systems used in corrective eye surgery, computers that analyze blood, ultra-sound imaging equipment, & devices for automating insulin injections as well as controlling other bodily functions. They may also perform duties such as evaluating the effectiveness of drugs & other medications, developing new energy sources to power these medical devices, & managing a large number of technicians and assistants in a laboratory environment. Biomedical engineers may choose to specialize in areas such as biomechanics, biomaterials, medical imaging, clinical engineering, rehabilitation engineering, or orthopedic engineering. Persons interested should have a high aptitude for math & science as well as be able to get along with many types of people.

Work Environment:

The majority of biomedical engineers work in medical, academic, industrial, and governmental research laboratories. Other employment opportunities exist in hospitals and undersea and space programs. These highly trained professions usually work 40-hours a week and face a minimal amount of workplace hazards.

Salary:

Average Annual Salary: $62,100
Salary Range: $46,700 - $78,900

Professional Organizations:

Association for Advancement of Medical Instrumentation (AAMI)
http://www.aami.org/

Biomedical Engineering Society
http://www.bmes.org/aws/BMES/pt/sp/home_page

National Association for Biomedical Research
http://www.nabr.org/

High School Preparation

High school students interested in becoming a biomedical engineer should take courses in biology, chemistry, physics, algebra, calculus, geometry, trigonometry, English, literature, composition, mechanical drawing, electricity and electronics, physical education, computer skills, sociology, and health occupations/medical professions education.

College Requirements:

Individuals interested in engineering specialty must first obtain a bachelor's degree in engineering. Employers require that an individual have a biomedical engineering degree. Anyone interested in research or teaching must obtain a graduate degree. State engineering boards test, evaluate, and license individuals as professional engineers in the specific disciplines. Additional professional testing & certification in this specialty can be obtained through the Association for the Advancement of Medical Instrumentation & the American Board of Clinical Engineering.

Career Outlook:

Employment of biomedical engineers is expected to increase faster than the average for all other occupations through 2012. This 25% - 35% rise in employment will focus largely on development of new high-tech devices for medical uses. An example of this would be the increasing research and development of computer-assisted surgery. Biomedical engineers will also be in demand in specialties such as rehabilitation and orthopedics because of exciting advancements in sophisticated medical equipment and procedures. Individuals in this profession will enjoy excellent job security as well as a very comfortable income.

Texas Schools:

LeTourneau University - Main Campus
http://www.letu.edu/_Academics/Engineering/engineering/biomed/index.html

Rice University
http://bioe.rice.edu/

Texas A&M University
http://biomed.tamu.edu/

The University of Texas at Arlington
http://www.uta.edu/bioengineering/

The University of Texas at Austin
http://www.bme.utexas.edu/

UT Health Science Center at San Antonio
http://gsbs.uthscsa.edu/

The University of Texas Medical Branch
http://www.utmb.edu/mdphd/

The University of Texas
http://www.utsouthwestern.edu/

BIOMEDICAL EQUIPMEDICAL TEACHICIAN

Biomedical equipment technicians install, inspect, calibrate, modify, test, and repair medical equipment and instruments used in diagnosing and treating diseases. They use blueprints, written specifications, and standard specialized equipment in order to fulfill most of these duties. Biomedical equipment technicians may also be called upon to train medical personnel to operate the equipment safely. Some of their various duties may include dismantling equipment in order to locate the cause of malfunction, repairing or replacing defective parts, reassembling equipment and adjusting precision components according to blueprint specifications, and performing safety checks on electrical and radiation equipment. They may also add to or change original components to meet specific therapeutic or diagnostic requirements.

Career specialties in this field include:

- Biomedical Engineering Technicians - depend on background in engineering to assist biomedical or clinical engineers;
- Electromedical Equipment Repairer - provide preventative maintenance for electromedical equipment in hospitals, and;
- Dental Equipment Installers and Servicers - install and maintain equipment in dental offices.

Individuals interested in this field must have a strong background in science as well as electro-mechanical skills. It is also important for these professions to be patient, pay close attention to detail, and have good communication skills.

Work Environment:

Biomedical equipment technicians usually work in hospitals, medical centers, and large clinics that have high-tech equipment and instruments. They may also work for manufacturers in engineering, sales, or service. These technicians are usually supervised by Biomedical or Clinical Engineers.

Salary:

Average Annual Salary: $37,400
Salary Range: $26,900 - $41,900

Professional Organizations:

American Society of Healthcare Engineering
http://www.ashe.org/

Association for Advancement of Medical Instrumentation (AAMI)
http://www.aami.org/

High School Preparation

High school students interested in becoming a biomedical equipment technician should take courses in biology, physics, algebra, geometry, trigonometry, English, literature, mechanical

drawing, electricity and electronics, industrial arts, computer skills, and health occupations/medical professions education.

College Requirements:

Individuals interested in biomedical equipment technology should have a high school diploma or the equivalent. Most employers prefer to hire people that have obtained a two-year associate's degree in electronics, medical technology, or an engineering related field from an accredited technical college. Some employers may hire an individual with an electronics background and offer on-the-job training. The US Certification Commission (USCC) offers certification to individuals that wish to become Certified Biomedical Equipment Technicians (CBET).

Career Outlook:

Employment opportunities among biomedical equipment technicians should grow about as fast as the average for all other occupations over the next decade. The rapidly expanding elderly population should spark strong demand for medical equipment and, in turn, create excellent opportunities in this field. As medical equipment becomes increasingly complicated, the need for highly trained technicians will be a necessity for large hospitals and medical centers. Individuals that are trained in specific areas, such as radiology, nuclear medicine, surgery, dialysis, or clinical laboratory, should see the best opportunities in this occupation.

Please check other Community Colleges in your area to see if this profession is offered. Look under their heading of ACADEMICS to see Degrees/Certificates offered.

Programs in Texas:

DeVry University - Houston
http://www.devry.edu/degree-programs/college-engineering-information-sciences/biomedical-engineering-technology-about.jsp

Texas State Technical College – Harlingen
http://www.harlingen.tstc.edu/biomed/index.aspx

Texas State Technical College - Marshall
http://www.marshall.tstc.edu/areas/biomed.shtml

Texas State Technical College - Waco
http://www.tstc.edu/programs/system/biomedical/advantage

BLOOD BANK SPECIALIST

Specialists in Blood Bank Technology perform both routine and specialized tests in blood center and transfusion services, using methodology that conforms to the Standards for Blood Centers and Transfusion Services of the American Association of Blood Banks (AABB).

Specialists in blood bank technology demonstrate a superior level of technical proficiency and problem-solving ability in such areas as:

1. Testing for blood group antigens, compatibility, and antibody identification;
2. Investigating abnormalities such as hemolytic diseases of the newborn, hemolytic anemia's, and adverse reactions to transfusion;
3. Supporting physicians in transfusion therapy for patients with coagulopathies (diseases affecting blood clotting), for example, or candidates for organ and cellular transplantation/therapy;
4. Performing blood collection and processing (which includes selecting donors, collecting blood, typing blood, and performing viral marker testing to ensure the safety of the patient, and;
5. Supervision, management, and/or teaching.

Specialists in blood bank technology are found in many types of facilities, including community blood centers, private hospital blood banks, university-affiliated blood banks and faculty, transfusion services, and independent laboratories. Specialists in blood bank technology may have some weekend and night duty, including emergency calls.

Qualified specialists may advance to supervisory or administrative positions or move into teaching or research activities (criteria for advancement in this field are experience, technical expertise, and completion of advanced education courses).

Salary Range: $35,000 - $50,000

Educational Programs:

Length :

Most of the educational programs are approximately 12 months. Some university passed programs offer a master's degree and take approximately 24 months to complete.

Prerequisites:

Applicants must be certified in medical technology by the Board of Registry and possess a baccalaureate degree from a accredited college/university. If applicants are not certified in medical technology, they must possess both a baccalaureate degree (with a major in any of the biological or physical sciences) and have work experience in a blood bank.

Curriculum:

Each specific educational program defines its own criteria for measurement of student achievement and sequence of instruction. The clinical material available in the educational program provides the student with a full range of experiences and develops competence in all

technical areas of the modern blood bank and transfusion services. The didactic experience covers all theoretical concepts of blood bank immunohematology and transfusion medicine.

Associated Affiliations:

American Society for Clinical Pathology
http://www.ascp.org/

Texas Blood Bank Programs:

Gulf Coast Regional Blood Center
http://www.giveblood.org/services/education/sbb-distance-program

UT Medical Branch at Galveston
http://www.utmb.edu/sbb/

University of Texas Southwestern Medical Center
http://www.utsouthwestern.edu/utsw/cda/dept48940/files/53772.html

University Health System and Affiliates School – San Antonio
http://www.sbbofsa.org/

Cardiovascular Technician
(EKG TECHNICIAN)

Cardiovascular technologists and technicians assist physicians in diagnosing and treating cardiac (heart) and peripheral vascular (blood vessel) ailments. Cardiovascular technologists may specialize in three areas of practice:

- Invasive Cardiology;
- Echocardiography, and;
- Vascular Technology.

Cardiovascular Technicians who specialize in electrocardiograms (EKGs), stress testing, and Holter monitors are known as Cardiographic Technicians or EKG Technicians. Cardiovascular Technicians hold more then 39,000 jobs in in the US and mostly in hospital Cardiology Departments. Some worked in offices of cardiologists or other physicians, cardiac rehabilitation centers, or ambulatory surgery centers. Cardiovascular Technicians assist physicians in cardiovascular diagnosis.

Cardiovascular technologists who specialize in echocardiography or vascular technology often run noninvasive tests using ultrasound instrumentation, such as Doppler ultrasound. Technologists who use ultrasound to examine the heart chambers, valves, and vessels are referred to a Cardiac Sonographer, or Echocardiographer. Employment of cardiovascular technicians is expected to grow faster than the average for all occupations in the next 8 years. Growth will occur as the population ages, because older people have a higher incidence of heart problems.

Cardiovascular Technicians perform diagnostic examinations at the request of a physician. They can create data from which a patient's correct anatomic and physiologic diagnosis may be established. Cardiovascular Technicians assist physicians and other medical personnel in diagnosing and treating medical problems related to the body's cardiac and peripheral vascular systems.

Cardiovascular Technicians who specialize in cardiac catheterization procedures, also known as invasive technology, are called Cardiology Technologists. They assist a physician who inserts a small catheter through a patient's blood vessel in the leg into the heart to determine if a blockage exists, and for other diagnostic purposes, specialize in non-invasive peripheral vascular testing, use ultrasound equipment to perform tests called echocardiograms (in which a picture of the heart in motion is transmitted through ultrasound to a video screen), and schedule appointments, type up physician interpretations, maintain patient files, and care for medical equipment.

Average Salary: $24,000 - $45,500

Educational Requirements:

People who are interested in becoming a Cardiovascular Technician should have a high school diploma or an equivalent. Programs are offered at some community colleges and vocational/technical schools. Programs are approximately 2 years long (1 year of core courses and 1 year of specialized education) either in non-invasive or invasive technology. Those

qualified in a related allied health care field need to complete only one year of specialized education.

Associated Affiliations:

Alliance of Cardiovascular Professionals
http://www.acp-online.org/

Society of Invasive Cardiovascular Professionals (SICP)
http://www.sicp.com/

Schools in Texas:

Alvin Community College
http://www.alvincollege.edu/dcvs/default.htm

El Centro College
http://www.elcentrocollege.edu/Program/Health/ICVT/index.php

Houston Community College
http://www.hccs.edu/hccs/business-community/career-technical-education-programs/diagnostic-medical-sonography

Sanford-Brown Institute - Dallas
http://www.sanfordbrown.edu/Areas-Of-Study/Allied-Health-Diagnostic/Cardiovascular-Technology

Sanford-Brown Institute - Houston
http://www.sanfordbrown.edu/Areas-Of-Study/Allied-Health-Diagnostic/Cardiovascular-Technology

Sanford-Brown Institute – San Antonio
http://www.sanfordbrown.edu/Areas-Of-Study/Allied-Health-Diagnostic/Cardiovascular-Technology

CHIROPRACTOR

Chiropractic care dates back to the 1890s when the discipline was developed to find a cure for disease and illness that did not use drugs. Today's modern Doctor of Chiropractic (D.C.) is a health professional who addresses the health care needs of the general public with the primary focus being the relationship of the neurological and structural systems of the body as they relate to health. Doctors of Chiropractic are licensed by the state in which they plan to practice. The Commission on Accreditation of the Council on Chiropractic Education accredits chiropractic educational programs.

Chiropractors take a medical history, and then perform an examination focused on detecting muscle strength versus weakness, the range of motion of the complete spine, any structural abnormalities, and the posture assumed by the patient in a variety of positions. Lab values may also be ordered. X-rays and other images may be taken to help make a diagnosis and to promote appropriate treatment. The chiropractor's principal method of treatment is through spinal manipulations:

1. The recoil thrust requires the patient to lie face down on a special table that moves slightly downward as thrusts are made by the practitioner to accomplish adjustments.
2. The rotational thrust requires the patient to lie with the upper body twisted counter to the pelvis. The chiropractor then applies short, fast thrusts to the spine.

Most chiropractors today use a variety of treatment methods in addition to adjustments and the majority of chiropractors are found in private practice settings or chiropractic clinics.

To become a chiropractor in the US, a person has to have a minimum of 2 years of undergraduate studies that focus on biology and science. Most chiropractor schools have a four-year curriculum, but some schools have accelerated 3-year programs. Most chiropractor schools recommend that a bachelor's degree has either been obtained before entry into the program, or they recommend getting a bachelor's at the same time as you get a DC degree. Similar to many other professionals, chiropractors are regulated at two different levels. Licensure is a process that takes place at the state level in accordance with specific state laws. National board examinations are conducted by the National Board of Chiropractor Examiners, thereby creating some national standards for chiropractic care.

The licensure of chiropractors may differ significantly from state to state. Most states require successful completion of the National Chiropractic Board examination prior to licensure. Some states also require passing a practical examination in addition to the written board exam. All states recognize training from programs where the chiropractic school has been accredited by the Council of Chiropractic Education (CCE). Most states have requirements for a certain number of continuing education hours to be completed every year, in order to maintain licensure.

Average Salary: $46,500 - $120,500

Educational Requirements:

Students who want to become chiropractors should have a high school diploma or

an equivalent and two years of college or junior college study. Students then must complete a program at a chiropractic college. Most states require that chiropractors pass a certification examination before being granted a license to practice.

Associated Affiliations:

American Chiropractic Association
http://www.acatoday.org/

Accredited programs in Texas are:

Parker College of Chiropractic
http://www.parkercc.edu/Welcome_to_Parker_University.aspx

Texas Chiropractic College
http://www.txchiro.edu/

Ninety semester hours or the equivalent are required for admission to either program. At Parker College of Chiropractic, students may obtain their B.S. degree in Anatomy concurrent with the professional doctorate degree. At Texas Chiropractic College, a B.S. degree in Human Biology is available concurrent with D.C. degree. Minimum GPA for admission to all Chiropractic Colleges is 2.5 in the natural science prerequisites. Texas requires an interview, while Parker does not.

Most Often Required Prerequisite Courses:

Chiropractic Programs in Texas		
Professional Schools	PCC	TCC
Total semester hours Prerequisite	90	90
Biological Sciences with Lab	6-8	6-8
General Chemistry with Lab	8 [c]	8 [c]
Organic Chemistry with Lab	8 [c]	8 [c]
General Physics with Lab	6-8	6-8
English or Communications Skills	6	6
Psychology	3	3
Humanities or Social Sciences	15	15
Electives	34 - 38	34 - 38

Note: Please be aware that these requirements can change.

COUNSELOR

Counselors assist individuals and groups with their personal problems in order to help them become more self-sufficient. They provide support, consultation, and therapeutic approaches to help people deal with difficulties such as marital problems, substance abuse, suicidal feelings, stress management, and self-esteem issues. Counselors may specialize in several different areas including mental health, school and career, substance abuse, employment/vocational, rehabilitation, marriage and family, and genetic counseling. Beginning with the interview process, counselors make observations that help them determine a treatment plan that will accomplish the client's goals. They often use personality, aptitude, and psychological tests to determine more precisely the needs of a particular patient. Counselors often work closely with other mental health professionals including psychiatrists, psychologists, and social workers to ensure that all of the patient's needs are being met. They are also responsible for maintaining records of tests and counseling services, and making sure that all records are kept confidential. Counselors often conduct research and report their findings in professional and trade journals. Anyone interested in a career as a counselor should be emotionally stable, sensitive to people's feelings, and have excellent oral and written communication skills.

Work Environment:

Counselors are employed in a variety of settings including private practice, hospitals, correctional institutions, mental health clinics, schools and universities, drug and alcohol rehabilitation centers, halfway houses, residential care facilities, job training and vocational rehabilitation centers, and public assistance agencies.

Salary:

Average Annual Salary: $34,600
Salary Range: $27,500-$44,300

Professional Organizations:

American Counseling Association
http://www.counseling.org/

American Mental Health Counselors Association
http://www.amhca.org/

High School Preparation:

Students interested in a career in counseling should take high school courses in biology, geometry, algebra, English, health occupations/medical professions education, sociology, literature, psychology, computer skills, social studies, and speech.

College Requirements:

Individuals must first obtain a bachelor's degree in counseling, psychology, education, sociology, or social work. Most employment opportunities for counselors require a master's degree or a doctoral degree. An internship or other professional experience is usually required

after receiving a degree. Graduates must then pass an examination given by the Mississippi Counseling Association or The National Board of Certified Counselors to become licensed.

Career Outlook:

Employment opportunities for counselors are expected to grow faster than the average for all other occupations through the year 2010. Educational, vocational, and school counselors are in greatest demand due to increased student enrollments and new state laws that require counselors in elementary schools. Counselors are becoming increasingly involved in crisis management and preventative counseling as it relates to young people. There will also be demand for behavioral, mental health, and marriage and family counselors due to a variety of reasons. Employment will also increase as many counselors retire or leave the profession for other reasons.

Please check other Community Colleges and Universities in Texas in this area of study. Look under their heading of ACADEMICS to see Degrees/Certificates offered.

Texas Programs:

Our Lady of the Lake University
http://www.ollusa.edu/s/1190/ollu.aspx?sid=1190&gid=1&pgid=975

University of Houston (PhD)
http://www.coe.uh.edu/academic-departments/epsy/index.php

University of North Texas (PhD)
http://www.psyc.unt.edu/

Texas A&M University (PhD)
http://epsy.tamu.edu/

University of Texas at Austin (PhD)
http://www.edb.utexas.edu/education/departments/edp/

Texas Tech University (PhD)
http://www.depts.ttu.edu/psy/

Texas Woman's University (PhD)
http://www.twu.edu/psychology-philosophy/grad-counseling-psychology.asp

CYTOTECHNOLOGIST
(Cytogenetic Technologist)

Cytology is the study of "cells". Cytotechnologists microscopically evaluate cells from all sites of the body for the presence of cancer, pre-cancerous changes, or infections. Cytotechnology is an allied health specialty that offers exciting possibilities for anyone who wants a career in science and a significant role in health care. Cytotechnologists are trained in techniques for collecting, processing, and evaluation of cell specimens that are used to identify a variety of both neoplastic and non-neoplastic conditions based on individual cell morphology. Cytotechnology is also a profession in which the theoretical knowledge and techniques of biology and chemistry are applied in diagnosing cancer, pre-cancer, benign tumors, infectious agents, and inflammatory processes.

Cytotechnologists are employed at the staff level in hospital and private laboratories, university medical centers, and government facilities. With experience, positions are available at the supervisory, educational, and administrative levels. The job responsibilities of cytotechnologists are expanding and research opportunities are increasing with the advancement of new tumor identification techniques. Presently, the number of trained cytotechnologists is inadequate to fill the need. The job market is excellent with positions available throughout the country. Salaries at onetime were competitive with other allied health professions, but are now increasing due to the current shortage.

Each patient sample is assigned an individual case number immediately upon its arrival in the laboratory. Patient and specimen data is entered into a computer by a cytotechnologist, a cytopreparatory technician or a clerical assistant. The results of all previous specimens for each patient are stored in the computer and are reviewed when the cytotechnologist evaluates each new cytology test.

Cytotechnologists and Cytopreparatory technicians prepare glass slides from fluid specimens for microscopic evaluation. Cells that are suspended in the fluid must be extracted and placed on a glass slide and stained with dye. Solutions are prepared in the laboratory for the staining of glass slides. Cells adhere to the glass slide, however they are transparent and must be immersed in dye to absorb color so that they may be viewed with a microscope. Following staining, a cover slip is applied to the surface of the slide so that the preparation will be permanently sealed. Cytotechnologists view these slides under a microscope and mark areas on the cover slip with an ink pen to indicate the cells of importance.

Cytotechnologists view cells with a microscope to look for signs of cancer and infections. Sometimes cytotechnologist colleagues consult each other to assist in the interpretation of a patient's specimen. Early detection of diseases makes treatment more effective.

A Cytotechnologist provides an interpretation for all patient samples that they screen. Abnormal cases and a portion of all normal cases are referred to a pathologist (a medical doctor who specializes in the study of diseases) for review.

Cytotechnology training programs are offered at the baccalaureate and post-baccalaureate (certificate) levels and are located in both hospital and university settings. There are four cytotechnology programs in Texas. The U.S. Army School of Cytotechnology is open only to active duty and reserve personnel.

Average Salary: $30,000 - $48,500

Educational Requirements:

Students interested in becoming Cytotechnologists should have a high school diploma or an equivalent. Almost all Cytotechnologists earn bachelor's degrees in medical or clinical technology programs that include a year-long clinical internship in the field. The programs to become a Cytotechnologist are usually 12 months long.

Professional Associations

Am Society of Clinical Pathologists
http://www.ascp.org/

American Society for Cytopathology
http://www.cytopathology.org/website/article.asp?id=2531

Commission on Accreditation of Allied Health Education Programs
http://www.caahep.org/

Texas programs:

British Columbia Institute of Technology
http://www.bcit.ca/study/programs/5670diplt

Mayo School of Health Sciences
http://www.mayo.edu/mshs/cytogen-cytogen.html

Michener Institute for Applied Health Sciences
http://www.michener.ca/ce/postdiploma/genetics_technology.php

Michigan State University
http://bld.msu.edu/mldcert.html

Northern Michigan University
http://webb.nmu.edu/Departments/ClinicalLabSciences/SiteSections/AcademicPrograms/UndergradPrograms.shtml

Texas Tech University Health Sciences Center
http://www.ttuhsc.edu/sah/msmp/

The University of Texas Health Science Center San Antonio
http://www.uthscsa.edu/shp/cyto/index.asp

University of Connecticut School of Allied Health
http://www.alliedhealth.uconn.edu/advising_certificate_program.php

University of North Texas
http://www.unt.edu/catalogs/2005-06/ucytobs.html

University of Texas M.D. Anderson Cancer Center
http://www.mdanderson.org/education-and-research/education-and-training/schools-and-programs/school-of-health-professions/programs-and-courses/cytogenetic-technology/cytogenetic-technology-program-description.html

University of Texas M.D. Anderson Cancer Center
http://www.mdanderson.org/education-and-research/education-and-training/schools-and-programs/school-of-health-professions/programs-and-courses/molecular-genetic-technology/index.html

DENTAL ASSISTANT

Dental Assistants are always in demand. They support dentists in a variety of tasks and they are often the first professionals the patient sees in the dental clinic. They work directly with the dentist and the patient. Das are trained in the preparation and use of basic dental instrument setups as well as in the proper manipulation of dentist technology, including taking x-rays, providing information to patients, and keeping detailed and accurate records of patient care. More importantly, Dental Assistants will continue to be in demand as the US population continues to age.

As a Dental Assistant, you will explore the administrative, chair-side and lab skills that can make you valuable in any dental practice. As a chair-side Dental Assistant, you will practice "four-handed dentistry." Your skills will grow as you are taught to prepare basic tray setups, mix common dental materials and maintain dental equipment. You will have the opportunity to learn how to expose and process dental x-ray film, clean and sterilize instruments, take dental impressions and make dental study models. You will be exposed to terminology and anatomy and will be given experience in educating patients in proper oral hygiene.

The major responsibilities of Dental Assistants are to greet patients, prepare them for examinations and treatment, and assist the Dentist with a variety of dental procedures. Other duties include preparing solutions, mixing materials, processing x-rays, sterilizing instruments, and keeping accurate patient treatment records. Clerical and front office work may also be involved in the role as a Dental Assistant. Cleaning, polishing, and making uncomplicated repairs on removable partials or complete dentures are other tasks that may be delegated to the Dental Assistant. Job descriptions may vary depending upon the office setting.

Average Salary: $17,500 - $30,000

Educational Requirements:

Some Dental Assistants may obtain their skills on the job; however, a large number are educated in formal programs. Community colleges, vocational/technical schools and some privately owned schools offer American Dental Association accredited courses for Dental Assistants. The program can be from 9 months to 2 years in length and leads to a certificate or an associate degree. No licensing is required. Certification is optional, and not usually a requirement for employment, although it may occasionally result in higher wages. Continuing education is required to maintain certification.

Associated Affiliations:

American Dental Association
http://www.ada.org/

Texas Schools:

Coleman College for Health Sciences - Houston
http://coleman.hccs.edu/portal/site/coleman/menuitem.cd28cc331ea36ea9759b8e10507401ca/?vgnextoid=45aaef11808e9110VgnVCM2000001b4710acRCRD&vgnextfmt=default

Del Mar College
http://www.delmar.edu/da/

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Grayson County College
http://www.grayson.edu/pdffiles/DENT.pdf

Lamar State College-Orange
http://www.lsco.edu/alliedhealth/dentalassisting.asp

San Antonio College
http://www.alamo.edu/sac/alldhlth/dentasst/default.asp

Texas State Technical College at Harlingen
http://www.harlingen.tstc.edu/dassist/index.aspx

Texas State Technical College at Waco
http://www.waco.tstc.edu/da/index.php

DENTAL HYGIENIST

The profession of dental hygiene is entering a truly exciting time with peer professionals and patient understands the preventive purpose of the dental hygienists job. In addition, the proven ability of the dental hygienist to work on treatment plans and to perform related care is also now being recognized. The emphasis is now on preparing for new horizons in dental hygiene programs and also maintaining continuing education throughout the professional lifetime of the dental hygienist. A dental hygienist is a health professional that provides educational, clinical, and therapeutic services promoting optimal oral health. There are 18 dental hygiene programs in Texas identified on the American Dental Hygiene Association (ADHA) website at http://www.adha.org . Baylor College of Dentistry (Dallas) and the University of Texas Health Science Center of San Antonio offer both the B.S. and M.S. in Dental Hygiene. Midwestern State University (Wichita Falls) and Texas Woman's University (Denton) offer the B.S.

It is possible to enroll in prerequisite coursework for these programs at another college or university and to apply to transfer into the dental hygiene program at the junior level. Students planning to complete prerequisites at another school should ask the program director for a list of prerequisite courses. Of the remaining programs, 13 award associate of science degrees and two programs award a certificate in dental hygiene. Most of these programs accept students with a high school diploma or GED. The majority of students accepted into these programs, however, have had some previous college coursework.

Lamar University, Texas Woman's University, and the University of Texas Health Science Center at San Antonio also offer degree-completion programs. These programs are designed for a graduate of an associate or certificate program that wish to complete the requirements for a B.S. degree in Dental Hygiene. Each dental hygiene program has its own application and student selection procedures.

Employment opportunities include private dental offices, clinics, nursing homes, dental research facilities, school and public health programs, and dental sales. Students should contact the appropriate program director for specific information.

Dental Hygiene Schools in Texas:

Amarillo College
http://www.actx.edu/dental_hy/

Austin Community College
http://www.austincc.edu/health/dhyg/

Texas A&M HSC - Baylor College of Dentistry
http://bcd.tamhsc.edu/education/dentalhygiene.html

Blinn College
http://www.blinn.edu/twe/dental/index.htm

Coastal Bend College
http://www.coastalbend.edu/Occu/dental/

Collin County Community College
http://www.collin.edu/academics/programs/dentalhygiene.html

Del Mar College
http://www.delmar.edu/dh/index.html

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Howard College
http://www.howardcollege.edu/index.php?option=com_content&view=article&id=163&Itemid=133

Kingwood College
http://www.lonestar.edu/dental-hygiene-dept.htm

Lamar University Institute of Technology
http://www.lit.edu/depts/allied/programs/dentalhygiene.aspx

Midwestern State University
http://hs2.mwsu.edu/dental/index.asp

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=42&pid=1

Tarrant County College
http://www.tccd.edu/Courses_and_Programs/Program_Offerings/Dental.html

Temple College
http://www.templejc.edu/dept/Dental/Dental.htm

Texas State Technical College
http://harlingen.tstc.edu/dhygiene/index.aspx

Texas Woman's University
http://www.twu.edu/dental-hygiene/

Tyler Junior College
http://www.tjc.edu/dental/index.php

UT HSC - Houston Dental Branch
http://www.db.uth.tmc.edu/education/dental-hygiene/admissions

UT HSC - SA School of Allied Health Sciences
http://www.uthscsa.edu/shp/dh/

Wharton County Junior College
http://www.wcjc.edu/ed_programs_n/allied_health/dental_hygiene/default.asp

DENTAL LABORATORY TECHNICIAN

Dental laboratory technicians make and repair orthodontic devices such as dentures, bridges, crowns, and braces. They use precision instruments and equipment such as small hand drills, in an effort to create practical and esthetically pleasing dental replacements. Using their artistic ability, dental laboratory technicians create these devices using materials such as gold, silver, porcelain, plastics, and stainless steel. They seldom interact with patients, but instead work closely with, and under the direction of, a licensed dentist. They must be able to follow detailed written instructions so that the final product will enable the patient to regain normal function. Dental laboratory technicians use molds and impressions of patient's teeth to create the most accurate dentures and fixed bridges as possible. Dental laboratory technicians can specialize in areas such as orthodontic technician, crown and bridge technician, metal dental technician, and dental ceramist. Anyone interested in this field should be artistically inclined and enjoy working with their hands. Individuals must also be able to precisely follow instructions and be able to sit in one place for long periods of time.

Work Environment:

Most dental laboratory technicians work in commercial dental laboratories, which usually employ less than five technicians. Other areas of possible employment exist in dentist's offices, hospitals, dental schools, the military, and other companies than manufacture dental prosthetics. Some dental laboratory technicians may be self-employed.

Salary:

Salary Range: $18,500 - $35,250

Professional Organizations:

American Dental Association
http://www.ada.org

American Dental Education Association
www.adea.org

National Association of Dental Laboratories
www.nadl.org

High School Preparation:

Students interested in a future as a dental laboratory technician should take high school courses in biology, algebra, English, chemistry, art, sculpting, anatomy and physiology, computer skills, health occupations/medical professions education, history, and geometry.

College Requirements:

Individuals interested in becoming a dental laboratory technician should have a high school diploma or equivalent. Most students complete a two-year certificate or associate degree

program that is approved by the Commission on Dental Accreditation. Individuals may also complete a five-year apprenticeship program, which can be substituted for a degree program. To become certified, students must pass an examination given by the National Board for Certification in Dental Laboratory Technology. Students interested in dental laboratory technology should contact schools for information on admission and course of study.

Career Outlook:

Employment opportunities for dental laboratory technicians are expected to grow fairly slowly through the year 2010. The US Department of Labor predicts an increase of only 3%-9% over the next decade. This slow growth is due to the small size of the profession and the improved oral health of the overall population. There are some positives for the profession, however. With more senior citizens retaining their teeth longer, this segment of the population will require more sophisticated prosthetics for longer periods of time. This will increase the demand for experienced dental laboratory technicians and their services.

Texas Schools:

LSU Health Sciences Center School of Dentistry
http://www.lsusd.lsuhsc.edu/fsdlt.html

San Antonio College
http://www.alamo.edu/sac/alldhlth/denttech/default.asp

UT Health Science Center - SA
http://www.uthscsa.edu/shp/dls/

DENTIST

For as long as people have had teeth, there has been someone trying to fix them, thus the dentist was born! Dentistry has a long and distinguished, not to mention interesting history. Anyone interested in dentistry should know a bit about what they are getting into, for instance:

- Did you know a dentist discovered anesthesia that is used for so many medical procedures?
- Did you know that the ancient Egyptians and Etruscans first crafted the crown and bridge?

The French Revolution had a very detrimental effect on dentistry around the turn of the 19th century. In 1792 the 18 medical faculties, 15 medical colleges, the Royal Society of Medicine, and the Academy of Surgery were all abolished and an edict was issued abolishing all restrictions on professions and trades and the practices of medicine, surgery, midwifery and dentistry were thrown open to anyone who could pay for a license. By the 1820s, the French had realized what a disastrous situation had been created and began trying to reestablish restrictions. Not until the 1890s was the regulation of dental practice successfully re-established.

The first serious attempt to regulate dental practice in Germany occurred in August 1825 when a law was passed requiring that those seeking the title of dentist must first already be a practicing physician or surgeon and then pass the examination in dentistry. Shortly after, the law was modified to allow candidates to take the examination if they had completed a satisfactory course in anatomy, surgery, and therapeutics, even though they may not have received a diploma in medicine or surgery. In 1852 this was changed again to restrict the practice of dentistry to practitioners holding the MD degree.

This kind of vacillation about who could practice dentistry has resulted in a two-level system in many countries in Europe and Russia. One type of dentist in these countries is the MD-Stomatologist; the other level is a more technically educated dentist without the doctor's degree. In the US there were French surgeon-dentists who had emigrated during the French Revolution; there were British dentists with and without the MD Degrees, but before long the majority of American dentists were Americans who had served as preceptors under other established dentists. Beginning in the late 1700's they referred to themselves as dental surgeons.

The first regularly established course of lectures on dentistry was given at the medical school at the University of Maryland in 1821. In 1837, a prominent American dentist named Horace Hayden was presenting these lectures. Hayden studied medicine after he began practicing dentistry and was later awarded an honorary MD Degree. Another prominent dentist was Chapin Harris who had received his license to practice medicine first and then served as preceptors in dentistry. Both Hayden and Harris recognized the need for some kind of organized, comprehensive instruction for dentists. Together they submitted a request to the University of Maryland for the establishment of a dental department. The application was not approved. Net Hayden and Harris applied to the state legislature for a charter to establish an independent school of dentistry and to award a new degree (Doctor of Dental Surgery) and to use the English initials D.D.S. The request was approved by the legislature at Annapolis and in 1839 the first dental school in the world was organized known as the Baltimore College of Dental Surgery.

That same year the first dental periodical was published, the American Journal of Dental Science and the first national dental society was formed, the American Society of Dental Surgeons. For the next 100 years, American dentists led the world both in the development of clinical procedures and in dental research. The dental historian, M.D.K. Bremner, refers to the three events of 1839 -- dental organization, education, and journalism -- as the three essential foundation blocks of a profession.

In the history of dentistry (and medicine and surgery) whenever there has been a lack of regulation, quackery has flourished. The dentists of New York State had organized in 1834 and stated one of their main goals to be the regulation of dental practice in that state. The first state, though, to pass a law to regulate the practice of dentistry was Alabama in 1841. By 1876 a large number of states had passed similar laws.

Between 1840 and 1867, nine more dental schools were organized after the pattern of Baltimore College -- completely separate autonomous schools. In 1867, the first dental school associated with a larger parent university was organized, Harvard University Dental School. The organizers were not happy with the D.D.S. Degree. If they used the Latin initials, as was the classical tradition, it came out C.D.D. In addition it was felt that dentistry was not a branch of surgery and not a separate science, but a branch of medicine. It was finally decided to prefix the Latin word "Dentariae" to the old degree "Medicinae Doctoris" thus meeting the classical requirements and making a distinctive title, D.M.D. for the profession which was actually a branch of medicine.

For many years there were only four schools in the United States that awarded the D.M.D. Degree: Harvard, Tufts, North Pacific (University of Oregon), and Alabama. Since 1970 approximately fifteen additional U.S. schools have discontinued the D.D.S. and adopted the D.M.D. Degree. The different degrees in no way reflect any differences in curricula. Many educators simply see the D.M.D. as a more correct designation of dentistry as a branch of the large field of medicine and not limited to surgery.

There are three dental schools in Texas, all public institutions. All three dentals schools have a four-year professional curriculum.

Most Often Required Prerequisite Course

Dental Schools in Texas [a]			
Dental School [b]	BCD	UTDB	UTSADS
Size of Class Admitted	89 [c]	60	90
Minimum Number of Predental Years [d]	2	3	3
Semester Hours Limit on Junior College Work	60	60	None
General or Inorganic Chemistry [e]	8	8	8
Organic Chemistry [e] (Semester Hours)	8	8	8
Biochemistry [f]	--	3	--
Physics [e]	8	8	8

Biology [e]	8	14	14
English [g]	6	6	6

Additional preparation might include courses in Spanish, psychology, business management, computer information systems and art.

Note:

[a] Please be aware that these requirements can change. Check with your health professions advisor, the Texas Medical and Dental Schools Application Service website, or the director of admission of the professional school for any changes or additional requirements.

[b] BCD = Baylor College of Dentistry (Texas A&M University System Health Science Center) - Dallas
UTDB = The University of Texas Dental Branch
UTSADS = The University of Texas Health Science Center at San Antonio Dental School

[c] Five –year program (split first year) for selected students

[d] Baccalaureate degree highly desirable

[e] Courses as required for science majors - one year with laboratory.

[f] Course as required for science majors

[g] Remedial or developmental courses or "English as a second language" courses are not accepted.

Dental Programs in Texas contact:

The University of Texas Dental Branch
http://www.db.uth.tmc.edu/

The UT Health Science Center at San Antonio Dental School
http://dental.uthscsa.edu/

The Texas A&M University System Baylor College of Dentistry
http://www.tambcd.edu/

Guidelines for Applying to Texas Dental Schools:

Dental schools assess six basic factors to judge performance in college and qualifications for admission. These factors are residency status (preference given to Texas residents), college grade point average (cumulative and science (GPA), Dental Admission Test (DAT) scores, a

completed application form, the health professions evaluation letter(s) and a personal interview. In addition, other factors that may have affected the applicant's personal or academic history are considered.

State Residency:

By Texas state law, the enrollment of non-resident applicants to state funded medical and dental schools is limited to 10% of the entering class, so Texas residents are given preference in admissions. If there is a question about Texas residency, it will be necessary to complete a Residency Questionnaire.
Please refer to www.utexas.edu/student/giac/residency.html for further information or contact the dental school directly.

Academic Performance:

The GPA is a major factor in evaluating academic performance. Also considered are: Consistency of grades, performance in required courses, course load per semester, number of colleges attended, discrepancies between GPA and DAT scores, and late attainment of academic success (i.e., trends in academic history). Official transcripts from all colleges/universities attended should be sent to Texas Medical & Dental School Application Service. Dental schools will not require original official transcripts to be sent until acceptance is extended. The GPA will be calculated from grades for course work at all colleges attended and will be calculated by year, cumulative, and science courses. All grades will be used in the calculations, regardless of whether courses were repeated.

Dental Admission Test (DAT):

Computers administer the DAT on most any day of the year and applicants should plan to take the test in the spring prior to dental school. Applicants may obtain a registration booklet from their advisor or contact the Dental Admission Testing Program at 211 East Chicago Ave, Ste 1846, Chicago, IL 60611 [Phone: 312-440-2689; website address is www.ada.org .

After applicant submits application form and fee payment, he/she will be notified regarding registration. The applicant will be instructed to call an 800-number to arrange day/time/place at a designated testing center to take the test. 48-hour advance notice is required for scheduling the test. Students will receive unofficial scores immediately after completing test. The dental schools/advisors will receive official results in about three weeks. If retest needed, students must wait at least 90 days. The DAT is a one-half day exam comprised of multiple-choice questions over the following areas: Survey of the Natural Sciences (biology, general chemistry, organic chemistry), Reading Comprehension (dental and basic sciences), Quantitative Reasoning, and Perceptual Ability (two and three dimensional problem solving). DAT scores range from 1-30; a standard score of 17 indicates an average performance, nationally. The academic average for the TMDSAS applicant pool has been approximately 18 over the last few years. For students matriculated in the three Texas Dental Schools, the academic average is approximately 19.

The Application:

Application to dental school is made in the summer of the year preceding entry. Early application is advised. It is recommended that applications be submitted as soon as possible after the form is available beginning May 1. All three Texas dental schools participate in the Texas

Medical and Dental Schools Application Service, 702 Colorado, Ste 6.400, Austin TX 78701 [Phone: 512-499-4785; email: TMDSAS@utsystem.edu]. The application is completed on-line and can be accessed by entering the following website: www.utsystem.edu . You may "click" on the heading "System Administration Offices" and then "Medical & Dental Applications." The application period extends from May 1 to November 1 for the next entry year. A student may be notified as early as December 1 regarding his/her acceptance. Texas residents are required to use the application service. The website is also a valuable resource for current application and admission information.

If a student is applying to an out-of-state dental school, he/she should check to see if the school participates in the Associated American Dental Schools Application Service (AADSAS). Students may access the application through the electronic application service at http://www.adea.org . The electronic application is available May 15.

Important Notes:

Obtain an unofficial transcript from each college or university attended. Use these transcripts when recording your course information on the application; this will help to ensure accuracy of information. Also, be sure to request that official transcripts from all colleges and universities attended be sent to the application service.

- Print a copy of the completed application and review it for accuracy before submitting it to the application service.
- Print the required signature page and any secondary applications that may be required.
- Regarding the personal statement, take some time to carefully construct the statement. It should be succinct and easy to read. Admission committees look to these comments for indications of you motivation, values, attitudes and goals regarding a career in dentistry. The statement gives you the opportunity to tell the committee members more about yourself. Remember, this is their first view of you as a candidate before they meet you in the interview. Finally, ask someone who is not familiar with your background to read the statement, it should be clear to him/her.
- Periodically check on the status of your application. Make sure that the application service has received all of the required information.

Health Professions Evaluation:

A written evaluation from the Health Professions Advisory Committee at the applicant's school is preferred. If an applicant's institution does not have a Committee, two individual faculty letters are acceptable.

Baylor College of Dentistry also requires a separate letter from a practicing dentist. This letter may be included in the Health Professions Evaluations (from the applicant's school) or the dentist may send it directly to the Application Service.

Timeline for Application:

Spring of Junior Year:

- Take the DAT;
- Complete information sheet, if required, for health professions advisory committee at you school.

Summer between Junior and Senior Years:

- Complete applications to dental schools;
- Texas dental school through on-line application from TMDSAS.

Out-of-state dental school through AADSAS:

- Request you health professions advisor to mail evaluation to dental schools;
- If necessary, retake the DAT (candidates must wait 90 days before retaking the DAT).

Fall of Senior Year:

- Interview at dental schools.

Suggested Reading:

Following is a short list of reading materials that may be useful in preparing to enter dental school. This is a selected list; new books and other materials are constantly being published. Ask your advisor about any recent volumes, that may be helpful to read.

Dental School Catalogs = These may be available in your health professions advisor's office or you can often access a catalogue by visiting a dental school's web site.

Official Guide to Dental Schools (revised annually) = Published by and available from: American Dental Association,
1625 Massachusetts Avenue, NW Washington, DC 20036-2212 ; Tel: (202) 667-9433; Fax: (202) 667-0642. Website: www.adea.org .

Opportunities for Minority Students in United States Dental Schools = American Dental Education Association at above address.

Dental Admission Testing Program: Applications and Preparation Materials (revised annually) = is available free of charge to dental school applicants. It consists of sample examinations used in the DAT and enables candidates to become familiar with the types of material included in the test. Available from: Dental Admission Testing Program 211 East Chicago Ave, Ste 1846, Chicago, IL 60611-2678; (312) 440-2689. American Dental Association website: www.ada.org

DAT Tutorial = A tutorial is available on diskette that will introduce the applicant to the mechanics of taking the computerized DAT. It does not include sample questions, but it does provide the basic steps involved in working through the test. Applicants may be able to obtain a copy from their advisor or by submitting a letter and a small fee to:

DT Tutorial
Department of Testing Services
211 East Chicago Ave, Suite 1846
Chicago , IL 60611

ASDA Handbook: A Resource Guide for Pre-dental Students = Contains information on the admissions process, financial aid, as well as other dental career information. American Student

Dental Association, 211 East Chicago Ave, Ste 1160, Chicago, IL 60611: (312) 440-2795; toll free (800) 621-8099, ext 2795; fax (312) 440-2820; website: www.asdanet.org .

NAAHP Publication—Medical Professions Admission Guide: Strategy for Success = Write for Success: Preparing a Successful Professional School Application. NAAHP, PO Box 1518, Champaign, IL 61824-1518 ; (217) 355-0063; Fax (217) 355-1287; website: www.naahp.org .

Dental Admission Test (DAT) Computerized Sample Tests = Available from Scholar ware at www.scholarware.com

Complete Preparation for the DAT = Lippincott Williams & Wilkins, PO Box 1600, Hagerstown, MD 21741 ; (800) 638-3030 Fax: (301) 223-2365; website; www.lww.com .

How to Prepare for the DAT = Barron's Educational Series, Inc., 250 Wireless Blvd Hauppauge, NY 11788-3917; (800) 645-3476; Fax (631) 434-3723; website; www.barronseduc.com .

HEMODIALYSIS TECHNICIAN
(Nephrology Technician)

Dialysis Technicians work primarily in outpatient dialysis clinics. They work in clean, climate-controlled environments, stand for prolonged periods of time, and the work can be strenuous. While working with seriously ill patients, they face exposure to infectious diseases such as HIV/AIDS and Hepatitis, as well as exposure to hazardous chemicals while carrying out their duties. These risks can be minimized by following prescribed sterilization procedures and by using universal precautions such as gowns, gloves, and face shields. To perform their job, technicians must fully understand the dialysis equipment -- the basic theory of dialysis, the design of the machine, and exactly how it works. Their specific duties can vary depending on the type and size of facility where they work. Some, but not all, technical duties require technicians to:

- Get the dialyzer (artificial kidney) and delivery system ready, monitor all equipment while in use, and do the necessary equipment cleaning following treatment.
- Record the patient's weight and vital signs before and after treatment; observe the patient during the dialysis procedure, monitoring and recording vital signs during treatment.
- Administer local anesthetics and drugs under supervision.
- Assess patients for any complications that occur during the procedure.
- Be ready to take any necessary emergency measures including administering oxygen or performing basic cardiopulmonary resuscitation (CPR).

Some important skills, knowledge, and abilities for Dialysis Technicians include:

- Be able to operation and control equipment or systems (watch gauges, dials, or other indicators to make sure machines work properly).
- Be able to give full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate and not interrupting at inappropriate times.
- Be able to communicate information and ideas so others understand.
- Be able to read and understand information and ideas presented in writing.
- Be able to arrange things/actions in a certain order or pattern according to a specific rule or set of rules.
- Be able to tell when something is wrong or is likely to go wrong.

Salary: $26,000 – $34,000

Affiliations:

National Association of Nephrology Technicians/Technologists (NANT)
http://www.dialysistech.net/

A Few Programs in and out of Texas:

Nephro Home Dialysis and Training Center, LLC
http://nephrohomedialysis.wordpress.com/

St. Bernadette of Lourdes Center
http://www.sblchealth.com/index.php?option=com_content&view=article&id=1220&Itemid=291

Malcom X College
http://malcolmx.ccc.edu/Academic_Programs/Nephrology_RenalTech.asp

Milwaukee Area Technical College
http://www.matc.edu/student/offerings/rdiat.html

Star Technical Institute
http://www.campusexplorer.com/Star-Technical-Institute/programs/

DIETETIC TECHNICIAN

Dietetic Technicians assist in shaping the public's food choices and provide nutritional assessment and counseling to persons with illnesses and injuries. Technicians often screen patients to identify nutrition problems, provide patient education and counseling, and develop menus and recipes for patients. Technicians may also supervise food service personnel, purchase food, and monitor inventory and food quality. Dietetic Technicians also use computer skills for tasks ranging from inputting inventory and payroll to charting patients' nutritional progress.

Dietetic Technicians work with registered Dieticians in a number of different healthcare settings, such as hospitals, public health nutrition programs, and long-term care facilities. Technicians may also work in child nutrition and school lunch programs, community wellness centers, health clubs, food companies, and food service management.

Average Salary: $14,000 - $30,000

Educational Requirements:

Persons interested in becoming a Dietetic Technician must have a high school diploma or an equivalent. Students must complete an accredited Dietetic Technician program. These programs are usually 2 years in length combining classroom with approximately 450 hours of supervised clinical experience. Upon completion of an accredited program must take an examination in order to become a Dietetic Technician, Registered (DTR).

Associated Affiliations:

American Dietetic Association (ADA)
http://www.eatright.org/students/education/cpd.aspx

Texas Schools:

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_CC/Forms/AllItems.aspx

San Jacinto College Central
http://www.sanjac.edu/degrees-certificates

St. Philip's College
http://www.alamo.edu/spc/main/programs.aspx

Tarrant County College
http://www.tccd.edu/Courses_and_Programs/Program_Offerings.html

ELECTRONEURODIAGNOSTIC TECHNOLIGIST

Electroneurodiagnostic (END) technology is the medical diagnostic field devoted to the recording and study of electrical activity in the brain and nervous system. END technologists possess the knowledge, skills, and attributes to obtain interpretable recordings of patients' nervous system function. They work in collaboration with medical researchers, clinicians, physicians, and other health professionals.

The END technologist can be involved in one or more of the following diagnostic procedures: electroencephalography (END), evoked potential (EP), polysomnography (PSG), nerve conduction studies (NCS), and intra-operative monitoring (IOM). The technologist takes the medical history; documents the clinical condition of patients; understands and employs the optimal use of EG, EP, PSG, and NCS equipment; and applies adequate recording electrodes. Among other duties, the END technologist also understands the interface between EEG, EP, PSG, and NCS equipment and other electrophysiological devices and procedures; recognizes and understands EEG/EP/NCS sleep activity displayed; manages medical emergencies in the laboratory; and prepares a descriptive report of recorded activity for the interpreting physician. The responsibilities of the technologist may also include laboratory management and the supervision of END technologists.

END personnel work primarily in neurology-related departments of hospitals, but many also work in clinics and the private offices of neurologists and neurosurgeons. Growth in employment within the profession is expected to be greater than average, owing to the increased use of EEG and EP techniques in surgery; in diagnosing and monitoring patients generally work a 40-hour week, but may work 12-hour days for sleep studies and be on-call for emergencies and intra-operative monitoring. According to the American Society of Electroneurodiagnostic Technologists, Inc (ASET), 2003 entry-level salaries average $34,726.

Salary Range: $34,000 - $52,000

Educational Programs:

Formal training programs can be found in community colleges, technical schools, private school, and hospitals. These programs last from 12 - 24 months and award a diploma, certificate or associate degree. There are only 12 accredited END schools in the United States and they require a High School diploma or equivalent. The curriculum includes anatomy, physiology, and neuroanatomy (with major emphasis on the brain), as well as instrumentation, personal and patient safety, recording techniques, clinical electroneurodiagnostics, and correlations. Clinical rotations are conducted in medical centers.

Associated Affiliations:

American Society of Electroneurodiagnostic Technologists
http://www.aset.org/i4a/pages/index.cfm?pageid=1

Electroneurodiagnostic Technologists Programs:

Carnegie Institute
http://www.carnegie-institute.edu/electroneurodiagnosticTechnologist.php

Kirkwood Community College
http://www.kirkwood.edu/site/index.php?d=485

Laboure College
http://www.universities.com/edu/Associate_degree_in_Electroneurodiagnostic_Technology_at_Laboure_College.html

Mayo School of Health Sciences
http://www.mayo.edu/mshs/cnt-career.html

McLennan Community College – Waco
http://www.mclennan.edu/departments/hsp/ptp/

Medical Education and Training Campus
http://www.metc.mil/academics/

Northeast Iowa Community College
http://www.nicc.edu/index.php?option=com_program&task=view&programid=23&campus=Peosta&Itemid=715

Orange Coast College
http://www.orangecoastcollege.edu/academics

Saint John's Hospital
http://www.st-johns.org/education/schools/endt/default.aspx

Western Wisconsin Technical College
http://www.westerntc.edu/programs/program.aspx?PROGRAM_NBR=106632

EMERGENCY MEDICAL DISPATCHER

Emergency Medical Dispatchers, or EMDs, are vital members of the emergency response system and are usually the first professionals to receive an emergency call about a suddenly ill or injured person. They respond to 9-1-1 and other emergency calls by dispatching the appropriate medical or rescue personnel (police, fire, ambulance, etc.) to the scene. EMDs must be able to manage all incoming calls and carefully question the caller in order to determine the type of emergency that exists, the geographical location of the incident, and the extent of any injuries suffered, and stay in contact with EMTs in the ambulance so that they can better coordinate with the medical staff at area hospitals. This requires an individual that works well under pressure and is able to solve problems quickly and give instructions over the phone until emergency service professionals arrive. Some examples: keeping themselves and the victim calm, giving CPR, delivering a baby, or stopping life-threatening bleeding. EMDs must be able to maintain detailed records of information that is received and any services that are needed. This profession also requires an individual to be comfortable with sophisticated computer and telecommunications equipment, as well as have exceptional communication skills.

Work Environment:

Emergency medical dispatchers usually work out of dispatch centers in a variety of settings, including police stations, fire stations, hospitals, or an independent city or county program. This profession can be very demanding and stressful so the dispatcher must be able to respond quickly and efficiently in critical situations.

Salary:

Average Annual Salary: $23,000
Salary Range: $22,800 - $25,400

Professional Organizations:

Association of Public Safety Communications, Officials International, Inc.
http://www.apco911.org/

National Academy of Emergency Medical Dispatch
http://www.emergencydispatch.org/

High School Preparation:

Students interested in a career as an emergency medical dispatcher should take high school courses in algebra, biology, English, psychology, computer skills, typing, first aid, public speaking, foreign languages, telephone communications, and health occupations/medical professions education. Individuals interested in emergency medical dispatching should have a high school diploma or equivalent. Educational and training requirements vary greatly depending upon the employer. EMDs often have a background in communications and receive some form of on-the-job training. They need to be able to speak clearly, know basic first aid

procedures, and learn how to operate sophisticated telecommunications equipment. EMDs must be certified through a state-recognized program.

Individuals interested in basic and advanced training in emergency medical dispatching should contact the professional organizations for information on times and locations of courses. Courses are taught often and vary greatly in length.

Career Outlook:

Employment opportunities for emergency medical dispatchers should be excellent in the near future. There is an expected growth in the job market of 10% - 20% over the next decade. There is a national trend for all public safety agencies to consolidate activities under a single 911 communications center. All of these centers will require trained EMDs to manage the medical emergencies that arise. Population growth is also having a positive affect on employment, since all these new areas that are becoming populated need full-time emergency services personnel to handle the increased workload. Anyone who can remain calm in emergency situations and possesses good communication skills should consider a career in emergency medical dispatching.

Schools In Texas:

Alamo Community Colleges
http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Alvin Community College
http://www.alvincollege.edu/degrees/

Amarillo College
http://catalog.actx.edu/content.php?catoid=10&navoid=349

Angelina College
http://www.angelina.edu/interest/index.html

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Blinn College
http://www.blinn.edu/academics/degrees.html

Brazosport College
http://www.brazosport.edu/sites/FutureStudents/Programs/default.aspx

Brookhaven College
http://www.brookhavencollege.edu/instruction/h-h-services/#hp

Central Texas College
http://www.ctcd.edu/nursing/index.htm

Collin County Community College
http://www.collin.edu/academics/programs/index.html

College of the Mainland
http://www.com.edu/degrees-programs/degrees-certifications.php

Dallas County Community College
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Frank Phillips College
http://www.fpctx.edu/Students/DegreesCerts/DegreesCerts_03042010.htm

Galveston College
http://www.gc.edu/gc/Health_Sciences.asp?SnID=807583250

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Hill College
http://www.hillcollege.edu/info/departments/

Howard College
http://www.howardcollege.edu/

Kilgore College
http://www.kilgore.edu/programs.asp

Lamar State College – Orange
http://www.lsco.edu/alliedhealth/alliedhealth.asp

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lone Star College
http://lonestar.edu/programs-classes.htm

Midland College
http://www.midland.edu/students/academics/allprograms.php

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=73&pid=3

Panola College
http://www.panola.edu/healthscience/

San Antonio College
http://www.alamo.edu/sac/alldhlth/default.htm

South Plains College
http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Southwest Texas Junior College
http://www.swtjc.net/programs/workforce-training/nurse-aide-training.aspx

Temple College
http://www.templejc.edu/dept/dept.htm

Tarrant County College
http://www.tccd.edu/Courses_and_Programs/Program_Offerings.html

Texarkana College
https://www.texarkanacollege.edu/pages/156.asp

Texas Southmost College
http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Tyler Junior College
http://www.tjc.edu/nhp/

Vernon College
http://www.vernoncollege.edu/uploadedFiles/VC/INSTRUCTIONAL_SERVICES/Course_ScheduleAdvising/VC%20Programs-Areas%20of%20Study%2010-11.pdf

Weatherford College
http://www.wc.edu/programs-of-study/health-professions

Western Texas College
http://www.wtc.edu/career_tech.html

Wharton County Junior College
http://www.wcjc.edu/admin_offices_n/Registrars_Office/Registration/1_Admission.asp

EMERGENCY MEDICAL TECHNICIAN (PARAMEDIC)

Emergency Medical Technicians (EMTs) and EMT- Paramedics are trained to provide medical care to people who have suffered from an illness or an injury outside of the hospital setting. EMT's and paramedics work under protocols approved by a physician medical director to recognize, assess, and manage medical emergencies and transport patients to definitive medical care. EMT's provide basic life support, and EMT - Paramedics provide advanced life support.

EMT and EMT - Paramedics may be employed by a private ambulance company, fire department, police department, public EMS agency, private ambulance company, hospital, or combination of the above. EMS responders may be paid or volunteers in the community.

EMTs must be proficient in CPR, and training is centered on recognizing and treating life-threatening emergencies outside the hospital environment. EMTs learn the basics of how to handle cardiac and respiratory arrest, heart attacks, seizures, diabetic emergencies, respiratory problems, and other medical emergencies. They also learn how to manage traumatic injuries such as falls, fractures, lacerations, and burns. EMTs also are introduced into patient assessment, history taking, and vital signs.

EMTs perform CPR, artificial ventilations, oxygen administration, basic airway management, defibrillation using an AED, spinal immobilization, vital signs, bandaging/splinting, and may administer Nitroglycerin, Glucose, Epinepherine, and Albuterol in special circumstances.

EMT - Paramedics perform all of the skills performed by an EMT-Basic. In addition, they perform advance airway management, such as endotracheal intubation. They obtain electrocardiographs (ECGs), introduce intravenous lines, and administer numerous emergency medications. EMT - Paramedics assess ECG tracings and defibrillate. They have extensive training in patient assessment and are exposed to a variety of clinical experiences during training.

Salary Range: $30,500 - $50,000

Educational Programs:

In most locations in the United States, the minimum level of education that most EMS professionals have before entering the workforce is that of a Basic-Level EMT. Individuals who work as firefighters or police officers may perform some emergency medical work when trained as first responders. Some paramedic programs provide an all-inclusive program that includes both EMT and paramedic training in one program. All levels of EMS training are set by the federal government through the National Highway Traffic Safety Administration.

EMT training is offered at community colleges, technical schools, hospitals, and universities and EMS, fire, and police academies. Those interested in EMT training should contact their state's EMS Office. Those interested in paramedic training should contact the Committee on Accreditation for EMS Professionals. Both of these agencies can help potential students find local training.

Length:

EMT training varies from 2 to 6 months, depending on the training site and hours of class scheduled per week. There are training programs that have class every day for several months for those interested in quick completion. Longer programs are available to accommodate students who have other responsibilities that limit their available time for education.

Approximate training requirements are:

First Responder	40 hours of training
EMT-Basic	110 hours of training
EMT-Intermediate	200-400 hours of training
Paramedic	1,000 or more hours of training

Prerequisites:

An EMT student is expected to be a high school graduate or the equivalent and to meet the physical and mental demands of the occupation. EMT-paramedic students must have completed their EMT training prior to enrollment in most EMT-paramedic courses unless they are enrolled in a joint EMT and paramedic program. Some paramedic programs are part of Bachelor of Science degree programs offered at colleges and universities.

Curriculum:

EMT and Paramedic training are composed of in –classroom, didactic instruction; in-hospital clinical practice; and a supervised field internship on an ambulance. Courses typically are competency-based and supported by performance assessments. Instruction provides students with knowledge of acute and critical changes in physiology and psychological and clinical symptoms that they might encounter in an emergency medical situation.

Associated Affiliations:

National Association of Emergency Medical Technicians
www.naemt.org

Emergency Medical Technicians Programs:

Alamo Community Colleges
http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Alvin Community College
http://www.alvincollege.edu/degrees/

Amarillo College
http://catalog.actx.edu/content.php?catoid=10&navoid=349

Angelina College
http://www.angelina.edu/interest/index.html

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Blinn College
http://www.blinn.edu/academics/degrees.html

Brazosport College
http://www.brazosport.edu/sites/FutureStudents/Programs/default.aspx

Brookhaven College
http://www.brookhavencollege.edu/instruction/h-h-services/#hp

Central Texas College
http://www.ctcd.edu/nursing/index.htm

Collin County Community College
http://www.collin.edu/academics/programs/index.html

College of the Mainland
http://www.com.edu/degrees-programs/degrees-certifications.php

Dallas County Community College
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Frank Phillips College
http://www.fpctx.edu/Students/DegreesCerts/DegreesCerts_03042010.htm

Galveston College
http://www.gc.edu/gc/Health_Sciences.asp?SnID=807583250

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Hill College
http://www.hillcollege.edu/info/departments/

Howard College
http://www.howardcollege.edu/

Kilgore College
http://www.kilgore.edu/programs.asp

Lamar State College – Orange
http://www.lsco.edu/alliedhealth/alliedhealth.asp

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lone Star College
http://lonestar.edu/programs-classes.htm

Midland College
http://www.midland.edu/students/academics/allprograms.php

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=73&pid=3

Panola College
http://www.panola.edu/healthscience/

San Antonio College
http://www.alamo.edu/sac/alldhlth/default.htm

South Plains College
http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Southwest Texas Junior College
http://www.swtjc.net/programs/workforce-training/nurse-aide-training.aspx

Temple College
http://www.templejc.edu/dept/dept.htm

Tarrant County College
http://www.tccd.edu/Courses_and_Programs/Program_Offerings.html

Texarkana College
https://www.texarkanacollege.edu/pages/156.asp

Texas Southmost College
http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Tyler Junior College
http://www.tjc.edu/nhp/

Vernon College
http://www.vernoncollege.edu/uploadedFiles/VC/INSTRUCTIONAL_SERVICES/Course_ScheduleAdvising/VC%20Programs-Areas%20of%20Study%2010-11.pdf

Weatherford College
http://www.wc.edu/programs-of-study/health-professions

Western Texas College
http://www.wtc.edu/career_tech.html

Wharton County Junior College
http://www.wcjc.edu/admin_offices_n/Registrars_Office/Registration/1_Admission.asp

ENVIRONMENTAL HEALTH SPECIALIST

Environmental Health Specialists are concerned with the environmental quality of a community and the health and safety of the workers in that community. They are responsible for enforcing local, state, and federal regulations that pertain to the sanitation of food and water, handling of hazardous and infectious wastes, and cleanliness and safety of housing and institutional environments. They may also be in charge of collecting and analyzing samples to determine if a hazard to public health exists. Environmental health specialists need to be comfortable with computers and other high tech devices because they may be called upon to prepare and calibrate the equipment used to collect and analyze the samples. Another major function of these specialists is to consult with and advise physicians and other medical personnel about potential community environmental health hazards. Environmental health specialists may specialize in milk and dairy production, food protection, sewage disposal, pesticide management, air and water pollution, hazardous waste disposal, occupational health, and wildlife health/management. These professionals need to possess good oral and written communication skills because they may have to conduct, analyze, and dispense epidemiologic data regarding disease outbreaks within a community. Individuals must also have good analytical and problem solving skills, work well with other people, and have a commitment to creating a safe environment.

Work Environment:

Environmental health specialists may work in state, county, or local health departments, hospitals, private businesses, wildlife parks, and environmental enforcement agencies. They are often employed as educators, consultants, and/or interpreters

Salary:

Average Annual Salary: $55,880
Salary Range: $39,200-$72,300

Professional Organizations:

American Board of Industrial Hygiene
http://www.abih.org/

National Environmental Health Association
http://www.neha.org/index.shtml

National Institute of Environmental Health Sciences
http://www.niehs.nih.gov/

High School Preparation:

Students interested in becoming an environmental health specialist should take high school courses in algebra, geometry, trigonometry, calculus, biology, chemistry, physics, English, literature, computer skills, and health occupations/medical profession education.

College Requirements:

Individuals interested in environmental health must have a high school diploma or the equivalent, earn a bachelor's degree in environmental health, but some have a degree in a related field such as biological/chemical sciences or environmental engineering. Career opportunities can be greatly advanced by earning a master's or doctoral degree in this specialty.

Career Outlook:

Employment opportunities are expected to grow 10% - 20% through the year 2012. Because there is a majority of environmental health specialists employed by local, state, and federal agencies, job security is relatively high. With an increasing amount of environmental protection legislation being passed, demand for these health professionals should increase well into the 21st century.

Top 10 Training Programs:

University of Illinois - Champaign
http://nres.illinois.edu/

Texas A & M University
http://envp.tamu.edu/environmental-studies

Texas Engineering Extension Service (TEEX)
http://teexweb.tamu.edu/

University of California – Santa Barbara
http://www.bren.ucsb.edu/

Western Washington University
http://www.wwu.edu/huxley/

Oregon State University - Corvallis
http://envsci.science.oregonstate.edu/

University of California - Riverside
http://envisci.ucr.edu/

Texas State University - San Marcos
http://www.geo.txstate.edu/degrees-programs/undergraduate/bachelor-of-science/resource-environmental-studies.html

University of Virginia
http://www.evsc.virginia.edu/

University of Idaho - Moscow
http://www.uidaho.edu/cogs/envs.aspx

University of North Carolina - Chapel Hill
http://www.sph.unc.edu/envr/

FORENSIC SCIENTIST

What's A Forensic Scientist? A forensic scientist is first a scientist that applies his scientific knowledge to assist juries, attorneys, and judges in understanding science, he is a forensic scientist. Forensic scientists are thinkers, good with details, good with putting pieces of a puzzle together, and curious. Some scientists work in laboratories and some also go out to places where crimes are committed while others teach in colleges and universities.

Forensic science is science used in public, in a court, or in the justice system. Forensic sciences form a vital part of the entire justice and regulatory system and some of the different divisions or disciplines have become identified primarily with law enforcement.

Forensic scientists are involved in all aspects of criminal cases, and the results of their work may serve either the defense or the prosecution. The forensic scientist's goal is the evenhanded use of all available information to determine the facts and, subsequently, the truth. Also, the forensic scientist's role in the civil justice arena is expanding: issues range from the validity of a signature on a will, to a claim of product liability, to questions of whether a corporation is complying with environmental laws, and the protection of constitutionally guaranteed individual rights. Forensic science is a rewarding career where the love of science can be applied to the good of society, public health, and public safety. The forensic scientist is responsible for work he performs; no one else can write his report nor testify to his opinion. It takes teamwork to solve a crime and these scientists work closely with police officers, sheriff's deputies, prosecuting and defense attorneys, DEA, CIA, and FBI agents, immigration workers, and crime scene investigators.

The rule of law is based on the belief that the legal process results in justice. This has come under some question in recent years. The forensic scientist cannot change skepticism and mistrust single-handedly, however, they can contribute to restoring faith in judicial processes by using science and technology in the search for truth in civil, criminal, and regulatory matters.

Ethics - The forensic scientist works only for truth. He makes sure that the examination is complete, tests performed are done correctly, interpretation of data is thorough, written reports are correct and can be understood, and testimony is complete and truthful.

How Do I Become a Forensic Scientist?

You will need:

- a bachelors degree in science;
- some forensic sciences require advanced degrees;
- good speaking skills;
- take public speaking, join the drama club, etc.;
- good note-taking skills;
- the ability to write an understandable scientific report;
- intellectual curiosity;
- personal integrity.

Forensic scientists work in laboratories, at crime scenes, in offices, and in morgues. They may work for federal, state and local government, forensic laboratories, medical examiners offices, hospitals, universities, toxicology laboratories, police departments, medical examiner/coroner offices, or as independent forensic science consultants.

Kinds of Forensic Science are there?

Criminalist

The criminalist analyzes compares, identifies and interprets physical evidence such as: foot prints, fingerprints, discarded evidence, hair, fiber, clothing, broken glass, tool marks caused by forced entry, scratches, blood and semen deposited or pick up by the suspect. Physical evidence cannot be wrong, only the interpretation can be wrong.

Scope of Work:

A criminalist analyzes compares, identifies, and interprets physical evidence. The main role of the criminalist is to objectively apply the techniques of the physical and natural sciences to examine physical evidence. Physical evidence may be anything: evidence so small a microscope is needed to see; or a truck; subtle as a whiff of a flammable gas; as obvious as a pool of blood at a homicide scene. The criminalist examines and identifies hair, fibers, blood, seminal and body fluid stains alcohol, drugs, paint, glass, botanicals, soil, flammables, and safe insulating material; restores smeared or smudged markings; and identifies firearms and compares bullets, tool markings, and foot prints. In most cases, the amount of the evidence to be tested is very small, such as a drop of blood, a hair, or a piece of glass.

Education and Training:

The minimum requirement is a bachelor's degree in chemistry, biology, physics, molecular biology, or a related science. In the future, a master's degree may be required. Many colleges and universities offer degrees and courses in forensic science. In deciding whether to get a degree in chemistry or biology, or one in forensic science, study the courses offered. At least 24 semester hours of either chemistry or biology is required and math is a must. The title of the degree is not as important as the courses taken. The criminalist must take continuing education courses all during his career. By passing a very tough examination, the criminalist may become certified by the American Board of Criminalistics.

Career Opportunities:

Criminalists work in forensic laboratories in police departments, sheriffs offices, district attorney's offices, regional and state agencies, medical examiners offices, private companies, colleges and universities, and for federal agencies such as the DEA, ATF, FBI, USPS, SS, CIA, the military forces, and the US Fish and Wildlife Services. Criminalists assist the United States Department of Justice in helping other countries create or update forensic services.

Engineering Sciences

The forensic engineer applies the art and science of engineering to the purpose of the law. Most requests for services involve civil suits. However, the forensic engineer may also assist in the prosecution or defense of criminal or regulatory matters.

Scope of Work:

Engineering Science seek to answer questions involving failure analysis, accident reconstruction, causes and origins of fires or explosions, design review, quality evaluation of construction or manufacturing, maintenance procedures, and environment definition. Some questions the engineer may be asked to answer are: Why did the vehicle roll over? How could the accident have happened?; Why did the airplane crash?; Why did the building collapse?; Did defects exist?

Forensic Engineers

Forensic engineers may be employees by corporations or government agencies but most are employed by small firms or are self-employed. The competent, ethical, credible, and professional forensic engineer is in high demand now and will be in the foreseeable future.

Scope of Work:

Forensic engineers specialize in the scientific areas of laboratory investigation, field investigation, clinical work, communication, computer investigation, education, research, and other emerging forensic science disciplines. These scientists are employed or practicing in the following areas of forensic activity: administrator, accountant, archaeologist, artist/ sculptor, aviation accident investigator, ballistics analyst, computer-related crime investigator, computer specialist, forensic consultant, coroner, crime scene investigator, medico-legal investigator, educator, image enhancement specialist, marine biologist, nurse examiner, photographer, polygraph examiner, radiologist, researcher, rehabilitation specialist, social worker - forensic applications, and speech scientist.

Education and Experience:

One must have at least a bachelor's degree and a masters or doctorate degree may be required. Work experience requirements vary with educational levels.

Career Opportunities:

Many work for colleges, universities, government agencies, police agencies, federal agencies, and criminal investigation arms of the U.S. Army, U.S. Air Force, and their support laboratories. Others work for coroners, medical examiners, hospitals, and District Attorneys offices. Private companies and independent forensic specialists are consultants to both the prosecution and defense.

Forensic Dentistry

Forensic dentistry (odontology) is a vital branch of forensic science that involves the application of dental science to the identification of unknown human remains and bite marks, using both physical and biological dental evidence.

Scope of Work:

Forensic dentists deal with a range of medicolegal problems. Identification of the human remains of natural disasters, terrorist activities, and missing and unknown persons is a central activity. The postmortem dental examination of human remains usually involves charting dental and cranial features, radiographic (x-ray) documentation of these features, and forensic report writing regarding these findings. Bite mark analysis in cases of assault, rape, and/or homicide

requires special training and experience. Digital imaging methods may be used in comparing dental evidence from a homicide suspect. Odontologists also give expert testimony in civil litigation involving dental issues such as personal injury law, workers compensation, professional malpractice, and disputes regarding aspects of the dentist/patient relationship.

Career Opportunities:

There are many opportunities for forensic odontologists to have formal appointments or consulting relationships with coroners, medical examiners offices, state and local government agencies, and branches of the military. Reimbursement is on a fee-for-service or contractual basis. Private consultations are possible with insurance companies and legal firms. It is common for court qualified forensic odontologists to testify in criminal and civil courtrooms. Expert testimony in civil and criminal litigation involves dental issues such as personal injury law, workers compensation, professional malpractice, disputes regarding aspects of the dentist-patient relationship, and identification of bite marks in criminal cases.

Pathology

Forensic pathologists cannot perform all of the miracles seen on television shows such as "Law and Order"; but it is an interesting and exciting field and is becoming a more popular and competitive career choice. Pathology is a medical specialty that studies disease by performing a type of surgery called an autopsy and examining the tissues removed under the microscope; analysis of fluids (such as blood or urine), and provides information about disease to the pathologist. Forensic pathologists also investigate sudden deaths of apparently healthy individuals (those not currently being treated for a disease which could account for the sudden death), the death of someone who has never seen a doctor (unattended), deaths occurring in police custody, suspicious or unusual deaths, deaths that may be the result of surgical or diagnostic procedure which could be a therapeutic misadventure, or some deaths which occur in public institutions.

Education and Training:

All forensic pathologists are medical doctors. Therefore, the training requirements involve many years of studious effort. After four years of college and four years of medical school, an apprenticeship in pathology, known as a residency, is required. Forensic pathology is a subspecialty of pathology, so an additional one or two-year fellowship - specifically in forensic pathology must then be completed after college, medical school, internship, and pathology residency. Certification in pathology or one of its several subspecialties is acquired from The American Board of Pathology.

Other physicians with MD or DO degrees or scientists with a PhD degree in a biological-related field may also qualify for membership in the Pathology/Biology Section of the AAFS.

Career Opportunities:

Forensic pathologists are usually employed by city, county or state medical examiners offices, hospitals, and federal government agencies, such as the Center for Disease Control (CDC) and the Armed Forces Institute of Pathology (AFIP).

Physical Anthropology

The next time you read in the newspaper or hear on the radio or TV that a body or skeleton has been found, it is likely that a forensic anthropologist will be contacted to identify it. Forensic anthropologists are called upon to identify bodies, skeletons, individuals killed in disasters, explosions, fires, and other tragedies resulting in the loss of life and mutilation of bodies.

Scope of Work:

Forensic anthropologists are skilled in the identification of skeletal materials. In addition to their efforts to document age, sex, stature, race, and other characteristics of the specimens under investigation, they are familiar with various types of injuries and can work with forensic pathologists to establish cause of death. Many have training in archaeological methods and assist law enforcement agencies in the initial investigations of crime scenes and can successfully recover human remains from different kinds of terrain (e.g., deserts, forests, river systems, etc).

Education and Training:

Forensic anthropologists usually earn a PhD in anthropology with an emphasis on the study of human osteology and anatomy with additional study in physical or biological anthropology with an emphasis in skeletal biology. The American Board of Forensic Anthropology (ABFA) was created for the purpose of certifying experts in the field of forensic anthropology. For Board certification, it is necessary to demonstrate practical experience as judged by case reports that are submitted for review. Also, a written and practical examination must be passed. Requirements for certification may be found at the ABFA website (www.csuchico.edu/anth/ABFA/).

Career Opportunities:

Forensic anthropology is practiced nearly everywhere there are skeletons to be examined and work out of laboratories at major research institutions or universities. They participate with the U.S. Government for repatriation issues; the Armed Forces Institute of Pathology as a Deputy Chief Medical Examiner; and, various state and local medical examiner offices use forensic anthropologists as medical investigators, administrators, and to act as special agents and laboratory personnel.

Psychiatry Behavioral Science

Forensic psychologists and psychiatrists work with criminal and civil cases and other areas such as family and domestic relations law. Such issues as competence to stand trial and to testify, to waive legal representation, or to be executed, and the assessment of mental illness as it relates to diminished responsibility or innocence by reason of mental illness or defect are the focus. Civil law requires assessment of such issues as involuntary psychiatric hospitalization, right to refuse treatment, competency to participate in do-not resuscitate decisions, and disability compensation among others. Issues in family and domestic relations may include juvenile delinquency, child custody, parental fitness, domestic abuse, adoption, and foster care.

Scope of Work:

Forensic psychiatrists and psychologists spend a significant amount of time interfacing with lawyers, judges, and are trained in giving expert testimony.

Education and Training:

Psychiatrists are medical doctors, forensic psychiatrists also will have additional education and experience in areas relevant for law. Forensic psychologists major in behavioral science during their four years of college, complete an additional one to two years of training for a masters degree, and spend an additional four to six years in graduate school to obtain a PhD in psychology. Some psychologists take post-doctoral fellowship training in forensic psychology.

Career Opportunities:

They can be employed in private practice, by city, county, and state government, by hospitals, and by the federal government.

Questioned Documents

Document examiners discover and prove facts concerning documents and related material, such as ink, paper, toner from a copier or fax, and ribbons, such as from a typewriter. The bulk of the examiners caseload rests upon answering questions such as:

- Who wrote this?
- Is this a true signature?
- Has this document been altered?
- Are there additions and/or erasures on this check?
- Was this pen used to write this?
- Tell me about this paper.

Scope of Work:

A document examiner may also be requested to examine items on a document to establish the manufacturing source, similarities or differences, first production date, or date used (a most difficult task). This is done by using chemical and/or physical analysis. Items to be examined may include inks (writing, printing, stamp pad, ink jet and typewriter), toners, pencil marks, erasure residues, correction material, and paper. Most of these tasks require the use of a good collection of known standards to which to compare. Often a criminalist is called to assist.

Education and Training:

One should possess a bachelor's degree in one of the sciences. Presently no degree programs in forensic document examination available in the US. An apprenticeship program lasting approximately two years under the direct supervision of a Full Member or Fellow of the Questioned Documents Section of the AAFS is required.

Career Opportunities:

Private practice consultants can be found in most major cities. Many large police organizations, as well as most state and federal law enforcement agencies generally employ forensic document experts.

Toxicology

Important to study the harmful effects of chemicals or drugs on living systems. Forensic toxicology is that branch of toxicology that deals with the medico-legal aspects of toxicology.

Scope of Work:

There are several areas of specialization such as:

- Post-mortem toxicology, involves the determination of the contribution of drugs or other chemicals to the circumstances of the death.
- The investigation of crimes in which an individual's drug or alcohol use is an element of the crime or may be a defense.
- Work place drug testing and forensic urine drug testing.
- Wildlife crimes involving the poisoning of animals, the use of drugs to facilitate sexual assault, and drug use and doping in human and animal sports.

Education and Training:

A bachelor's degree in a physical science including a solid background in chemistry and coursework in pharmacology is an ideal mix of educational qualifications for a toxicologist.

Career Opportunities:

Forensic toxicologists work in police or law enforcement laboratories, medical examiner laboratories, workplace drug testing laboratories, hospitals, universities industry laboratories, and with agencies which monitor drug use in sports.

Organizations:

American Academy of Forensic Science
http://www.aafs.org/

The International Association of Forensic Toxicologists
http://www.tiaft.org/

The Society of Forensic Toxicologist
http://www.soft-tox.org/

Schools in Texas:

Baylor University
http://www.baylor.edu/afsa/forensic_science/

Sam Houston State University
http://www.shsu.edu/gradcat/cj.html#msfs

St. Edward's University
http://think.stedwards.edu/bss/academics/undergraduate/forensicscience

Texas A&M University – Corpus Chrisit
http://lsci.tamucc.edu/bims/Main/Forensic

University of North Texas HSC – Fort Worth
http://www.hsc.unt.edu/gsbs/forensic.cfm

University of Texas Dental Branch - Houston
http://www.db.uth.tmc.edu/departments/diagnostic-sciences

University of Texas HSC at San Antonio Dental School
http://ddsdx.uthscsa.edu/

GENETIC COUNSELOR

The genetic counselor is a health professional academically and clinically prepared to provide Genetic Services to individuals and families seeking information about the occurrence, or risk of occurrence, of a genetic condition or birth defect. Practicing as part of a genetic services delivery team, the genetic counselor communicates genetic, medical, and technical information in a comprehensive, understandable, nondirective manner with knowledge of and insight into the psychosocial and ethno-cultural experiences important to each client and family. The counselor provides client-centered, supportive counseling regarding the issues, concerns, and experiences meaningful to the client's circumstances.

The predominant activity of genetic counselors is consulting with individuals (and families) with birth defects or genetic disorders and who may be at risk for a variety of inherited conditions. The identify families at risk, investigate the problem(s) present in the family, interpret information about the disorder, analyze inheritance patterns and risks of recurrence, and review available options with the family. Genetic counselors also provide supportive counseling to families, serve as patient advocates, and refer individuals and families to community or state support services. They serve as educators and resource people for other health care professionals and for the general public. Some counselors also work in administrative capacities. Many engage in research activities related to the field of medical genetics and genetic counseling.

In addition to direct contact with couples and individuals to provide genetic counseling services, most genetic counselors devote professional time to medical professional education, public education, grant writing, and research, as well as serving on national genetics and related professional boards and national, state, and regional health/genetic services delivery committee.

Genetic counselors work in a variety of health care settings. Most commonly, they are employed in major medical centers in prenatal, pediatric, or adult settings. According to the 1998Profeddional Status Survey, conducted in May 1998 by the National Society of Genetic Counselors (NSGC), more than 70% of all counselors work in university medical centers, private hospitals, and medical facilities. The rest are employed in approximately equal amounts by managed care organizations, diagnostic laboratories, federal and state government offices, public health agencies, private practice, and outreach clinics.

The genetic counseling profession is expanding/diversifying into adult common conditions, such as cancer, neurogenetics, psychiatric disorders, and cardiology.

Salary Range: $35,000 – $108,000

Educational Programs:

Length: These post-baccalaureate programs take 2 years to complete.

Prerequisites:

Applicants should have a baccalaureate degree that includes appropriate coursework as specified by the institution. Most commonly, genetic counselors enter master's degree programs

in genetic counseling with undergraduate degrees in biology/biosciences, psychology, or genetics.

Curriculum:

Principles and applications of human genetics and related sciences; principles and practice of clinical/medical genetics; methods of genetic testing; theory and application of interviewing and counseling; social, ethical, and legal issues as they pertain to the delivery of genetic services; healthcare delivery systems and principles of public health; teaching skills; and research methods.

Associated Affiliations:

National Society of Genetic Counselors
http://www.nsgc.org

Genetic Counselors Programs:

Arcadia University
http://www.arcadia.edu/academic/default.aspx?id=1036

Boston University School of Medicine
http://www.bumc.bu.edu/hg/

Brandeis University
http://www.bio.brandeis.edu/grad/gc/index.html

California State University , Northridge
http://www.csun.edu/biology/genetics.htm

Case Western Reserve University
http://genetics.case.edu/?page_id=29

Howard University
http://www.gs.howard.edu/graduateprograms/geneticsandhumangenetics.html

Indiana University Medical Center
http://www.iupui.edu/degrees/121/medical-and-molecular-genetics---genetic-counseling/

Johns Hopkins Bloomberg School of Public Health
http://www.jhsph.edu/dept/hbs/degrees/scm_genetic_counseling/

Medical College of Virginia
http://www.gen.vcu.edu/

Mt. Sinai School of Medicine
http://www.mssm.edu/education/graduate-school/degrees-and-programs/ms-in-genetic-counseling

Northwestern University Medical School
http://www.cgm.northwestern.edu/cgm/Academics/Graduate-Program-in-Genetic-Counseling

Sarah Lawrence College
http://www.slc.edu/graduate/programs/human-genetics/

University of California, Irvine
http://www.gradschools.com/program-details/university-of-california-irvine/genetic-counseling-ms-188863_1

University of Cincinnati College of Allied Health Sciences
http://www.geneticcounseling4u.org/

University of Colorado Health Science Center
http://www.ucdenver.edu/academics/colleges/Graduate-School/academic-programs/genetic-counseling/Pages/default.aspx

University of Maryland School of Medicine
http://medschool.umaryland.edu/mgc/

University of Michigan
http://www.hg.med.umich.edu/gcweb/

University of Minnesota
http://www.geneticcounseling-grad.umn.edu/index.html

University of North Carolina at Greensboro
http://www.uncg.edu/gen/

University of Pittsburg
http://www.hgen.pitt.edu/

University of South Carolina
http://geneticcounseling.med.sc.edu/

University of Texas Medical School at Houston
http://www.uthouston.edu/gsbs/genetic-counseling/

University of Wisconsin
http://www.med.wisc.edu/education/graduate-programs/genetic-counseling/main/26910

Wayne State University
http://cmmg.biosci.wayne.edu/students/ms_genetic_counseling.php

GERONTOLOGIST

According to the US Census Bureau, by the middle of this century, thinking of the US as a nation of the young might be incorrect. There could be more persons who are elderly (65+) than young (14 or younger). Early in 1900s men and women aged 65 or older made up only 4% of the total population, but by the year 2000 they were nearly 13% of the total population. The most rapidly growing segment is age 85 and over. Because of this trend, the study of gerontology has become far more important than one would have guessed during the 1940s and 1950s.

The discipline of Gerontology includes the study of the biological, psychological, social, and environmental aspects of aging. Because of the multidisciplinary nature of gerontology and the ever-increasing body of knowledge, practitioners and researchers have difficulty accessing the all-available information. Thus, there is a growing gap between what is generally known about aging populations and the knowledge/information readily available and accessible.

Gerontology is a multidisciplinary field focused on the study of the aging process. Gerontology professionals carry out a variety of roles, some within exiting professions and others in emerging roles. Some professionals work directly with older persons developing programs, providing direct care or providing counseling or advisement. Others are less directly involved because they work in areas such as research, advocacy and education.

Salary Range: $22,500 – $57,500

Available Information:

An increasing amount of information is available via the Internet and may prove to be useful to the general public. The Internet sites listed below are good places to begin locating information on gerontology and the aging population.

AARP - American Association of Retired Persons
http://www.aarp.org

AgingState.gov
http://www.agingstats.gov

Alzheimer's Association
http://www.alz.org

Centers for Disease Control and Prevention
http://www.cdc.gov/nchs/agingact.htm

ElderWeb
http://www.elderweb.com

National Institute on Aging
http://www.nih.gov/nia

Society on Aging

http://www.asaging.org

The American Geriatrics Society
http://www.americangeriatrics.org

The Gerontological Society of America
http://www.geron.org

US Census Bureau – Age Data of the US
http://www.census.gov/population/www/socdemo/age.html

US Senate - Special Committee on Aging
http://www.senate.gov/~aging

USA.gov – Government Made Easy
http://www.seniors.gov

Employment opportunities in the field of aging are diverse and include governmental agencies, health care institutions, community organizations, business and industry, educational settings and professional organizations.

Degrees are available at the Bachelors and Masters levels. Programs are often part of the Sociology, Social Work, or Allied Health Sciences School of a college. Graduates of a bachelor's program are qualified for entry-level or mid-level jobs as practitioners and planners. Master's level training prepares professionals to become administrators and skilled practitioners and planners.

For a bachelor's degree, consult the catalog of the school of your choice. At the Master's level, a bachelor's degree is required as well as official scores from graduate entrance tests, the GRE or GMAT.

Texas Programs:

Abilene Christian University
http://www.acu.edu/academics/cas/gerontology/index.html

Baylor University
http://www.baylor.edu/nursing_undergrad/index.php?id=76375

Stephen F. Austin State University
http://www.sfasu.edu/487.asp

Texas A&M University
http://www.srph.tamhsc.edu/research/prog-aging-health-prom/index.html

University of North Texas
http://www.unt.edu/aging/public/index.shtml

UT - Houston Health Science Center
http://www.uthouston.edu/media/featured/healthy-aging.htm

University of Texas Medical Branch
http://etgec.utmb.edu/Modules/

HEALTH CARE ADMINISTRATOR

Health Care Administration or Health Services Administration is the field concerned with the overall operation and management of any type of health care facility including clinics, hospitals, health maintenance organizations, and long term care facilities. Administrators supervise personnel, policy making, fiscal affairs, public relations, strategic planning, and service delivery in the facility. Typical requirements for administrators include supervisory, budgeting, management, decision-making, highly developed leadership skills and political savvy. Many times they develop and administer policy, coordinate services among facilities and with local agencies, solve problems, manage risks and liability, and see that the goals of the facility are met. Often they supervise mid and lower level administrators, department chairs, and others involved in service delivery. Chief administrators serve at the direction of their board of directors or their parent organization.

Top administrators commonly have an undergraduate degree in business and a master's degree in health care administration, public health, public administration, or an MBA specializing in healthcare services. Health professionals with years of service may also rise to higher administrative levels.

The following specializations exist:

- Health Systems/Health Services Administrators - Responsible for planning, budget development and administration, patient services administration, handling personnel issues, and preparing reports for health organizations.
- Extended Care Facilities/Long Term Health Care Administrators - Responsible for management of extended care facilities such as nursing homes, convalescent facilities, and continuing care retirement centers.
- Rehabilitation Services Administrator - Responsible for management of services for people with injuries, disease, birth defect, mental or emotional illness and chemical addictions.
- Health Services Research - Responsible for the analysis of health care information for administrative purposes examining the efficiency and effectiveness of healthcare.
- Healthcare Human Resources - Responsible for hiring, training, labor law, professional certifications, and other issues in health care staffing.
- Medical/Health Informatics - Responsible for the technology and information systems used in health care, including computer hardware, networking and software programming.

For a bachelor's degree, consult the catalog of the school of your choice. At the master's level, all will require a bachelor's degree in a related field, an appropriate grade point average, and a corresponding GRE or GMAT score. Many require some business or health care experience. Contact the programs for exact requirements.

Texas Programs:

Baylor University
http://www.baylor.edu/business/mba/index.php?id=4596

Dallas Baptist University
http://www3.dbu.edu/professional/health_care_management_cr.html

McLennan Community College
http://www.mclennan.edu/departments/nuha/

Midwestern State University
http://hs2.mwsu.edu/healthandpublic/

Our Lady of the Lake University
http://www.ollusa.edu/s/1190/ollu.aspx?sid=1190&gid=1&pgid=6459

Texas A&M University
http://www.srph.tamhsc.edu/health-policy-mgmt/master-of-health-administration-home.html

Texas A&M University – Corpus Christi
http://catalog.tamucc.edu/preview_program.php?catoid=4&poid=310&returnto=121

Texas Southern University
http://www.hotcoursesusa.com/us/bachelor-of-science-degree-in-health-administration-at-texas-southern-university-52727380-usa.html

Texas State University-San Marcos
http://www.health.txstate.edu/ha/degrees-programs/master-health-administration.html

Texas Woman's University
http://www.twu.edu/health-care-administration/

The University of Texas at Arlington
http://www.uta.edu/gradcatalog/2011/schools/business/health/

The University of Texas at Dallas
http://www.utdallas.edu/dept/graddean/CAT2010/MNGT/MS/ms_healthcaremngt.htm

The University of Texas Health Science Center at Houston
http://www.sph.uth.tmc.edu/fleming/

Trinity University
http://www.trinity.edu/departments/healthcare/

University of Houston-Clear Lake
http://prtl.uhcl.edu/portal/page/portal/BUS/BUS_Website/Our%20Healthcare%20Program/B.S.-HealthAdmin

University of North Texas
http://www.unt.edu/pais/grad/ghsmg.htm

HEALTH INFORMATION MANAGER
(Medical Records Administrator)

Health information managers (HIM) plan and develop, organize, manage, and direct the medical information system for a health care facility. The other 40% may work in medical group practices, health maintenance organizations, insurance companies, legal offices, health care consulting firms, nursing homes, clinics, and ambulatory and long-term care facilities.

Health information is used in every aspect of health care planning, delivery and evaluation. It serves as a basis for planning patient care, containing a patient's medical history, physical assessment and test results, and notes about the patient's treatment and outcomes from hospital stays, outpatient's procedures, office visits or nursing home care. The medical record serves as a means of communication for all health care team members. It enhances continuity of care and protects the legal and financial interests of the patient, health care facility and practitioner caring for the patient. Information from the medical record is used in continuing medical education, research, health care planning and management of insurance dollars. It is used to evaluate types of treatments, predict staffing needs, and estimate future patient volume through the year.

Responsibilities of the health information manager include supervision of staff, ensuring accurate, organized and confidential records, compiling statistical reports, monitoring spending, and assisting in quality control and research. Students can also enroll in a two-year option, registered Health Information Technician, formerly known as Accredited Record Technician. There are a number of accredited associate degree programs in Texas, please check the AHIMA web site (www.ahima.org) for current information. Graduates of accredited programs generally start between $28,000 and $38,000 and perform similar activities under the supervision of the HIM.

Curriculum includes general education courses, basic sciences, health-related courses, computer science, business, and management courses. Student should contact the programs directly for entrance requirements.

Accredited Programs:

Southwest Texas State University
http://www.health.txstte.edu/him/

Texas A&M University
http://catalog.tamu-commerce.edu/preview_program.php?catoid=14&poid=1612&returnto=512

Texas Southern University
http://www.tsu.edu/academics/colleges__schools/College_of_Pharmacy_and_Health_Sciences/Departments_Programs/HealthInformationManagement.php

University of Texas- Houston Health Science Center
http://www.uthouston.edu/sbmi/

PUBLIC HEALTH EDUCATOR

Health educators are an integral part of community health education programs. They provide information to individuals and communities in an effort to promote, maintain, and improve healthy lifestyles. Some of the issues that are of importance include substance abuse, safety, HIV/STDs, nutrition, high blood pressure, smoking, pregnancy, and diabetes. Health educators are also responsible for collecting and analyzing data for the purpose of researching, designing, and presenting preventative health care programs. These individuals must be able to inform and organize community coalitions in order to address concerns and issues that effect the health of communities. Health educators are often responsible for writing educational material, newsletters, public information reports, and grant proposals. They may specialize in various areas that include clinical health, public health, community health, industrial health, and school health. The main objective for a health educator is to prevent disease and promote healthy lifestyles through knowledge and behavior change. Anyone interested in health education must enjoy working with a variety of people, have good oral and written communication skills, and have a desire to help people.

Work Environment:

Health educators typically work in health departments, community organizations, corporations/work sites, volunteer organizations, schools, colleges, and governmental organizations.

Average Salary: Salary Range : $24,000 - $39,500

Professional Organizations:

American Public Health Association
www.apha.org

Society for Public Health Education
www.sophe.org

High School Preparation:

Students interested in a career as a health educator should take courses in biology, English, public speaking, algebra, geometry, behavioral sciences, social sciences, computer skills, writing, and health occupations/medical professions education.

College Requirements:

Individuals interested in health education must have a high school diploma or the equivalent. To become certified as a health educator, students must first receive a bachelor's degree in health education/promotion, public health, or community health. They must then pass a comprehensive written exam given by the National Commission for Health Education Credentialing, Inc. Once the student has passed the exam, they will be recognized as a Certified

Health Education Specialist (CHES). Health educators may further their education with a masters of public health degree. Students interested in health education should contact schools for information on admission and course of study.

Career Outlook:

The job outlook for health educators is expected to be very good. The US Department of Labor predicts a job market growth between 21% and 35% through the end of the decade. This is a growth that is faster than the average for all other occupations over the same period. Health educators are going to be in greater demand because of the growing importance of preventative health care. The importance of primary care will be shifted to health education and promotion as more insurance companies and governmental agencies start to realize the cost effectiveness of preventative health measures.

Schools In Texas:

Texas A&M University – Commerce
http://web.tamu-commerce.edu /academics /colleges /educationHumanServices /departments / healthHumanPerformance/undergraduatePrograms.aspx

Texas State University
http://www.education.txstate.edu/degrees-programs/undergraduate.html
or
http://www.hhp.txstate.edu/Degree-Plans/Graduate/Master-of-Education-Degree-in-Health-Education--36-hours-.html

Texas Woman's University
http://www.twu.edu/slis/mls-ms-health-studies-degree.asp

The University of Texas at Austin
http://www.edb.utexas.edu/education/departments/khe/AcadProg/undergrad/about/degrees/#HPF

HOME HEALTH AIDE

Home health aides provide personal and homemaking services to elderly, convalescent, and disabled persons. They usually perform their services in the patient's home. Some duties that are performed by home health aides include checking pulse and respiration rates, helping with prescribed exercises, changing surgical dressings, providing emotional and psychological support, and giving prescribed medications. They are required to maintain accurate and up-to-date records of services provided and the progress of the patient. Home health aides may also be called upon to assist with activities of daily living, which include helping patients in and out of bed, getting them dressed and undressed, assisting with personal hygiene, purchasing and preparing meals, changing bed linens, and other household chores. Most home health aides work with elderly and disabled patients, who require more help than family and friends can provide. Specific assignments and duties are usually given by a home health agency, a registered nurse, physical therapist, or social worker. Some home health aides may work with one patient for months or years, but the majority of aides work with several patients at any given time. Individuals in this profession often perform unpleasant duties, such as emptying bedpans and changing soiled linens, but most aides gain a great deal of satisfaction from helping people in need.

Work Environment:

Home health aides mostly work independently in the client's home. They work under the supervision of a licensed nurse, social worker, or other health professional. They are usually employed by a home health agency, and typically work a 40-hour workweek although part-time positions are available. Because some patients require 24-hour care, nights and weekend are sometimes required.

Average Salary: $12,000 - $15,000

Professional Organizations:

National Association for Home Care
www.nahc.org

High School Preparation:

High school students interested in becoming a home health aide should take courses in biology, algebra, family living, English, computer skills, child care, health occupations/medical professions education, home economics, physical education, and nurse aide training.

College Requirements:

Individuals interested in becoming a home health aide should have a high school diploma or the equivalent. Many states require that aides be licensed as a Certified Nursing Assistant (CNA). Aides may be required to pass an annual physical examination and have a negative tuberculin (TB) test. Other considerations for employment are a valid driver's license and personal transportation.

Career Outlook:

Employment opportunities for home health aides are expected to grow faster than the average for all other occupations. Over the next eight years job openings will increase by 20% - 35%. As the baby-boom generation becomes increasingly older, demand for home health personnel will skyrocket. Another reason for a rise in employment opportunities is that hospitals and nursing homes are trying to keep costs down by moving patients out of these primary care facilities and into their own home. Consumer preference for care in the home is another reason for such growth in this sector.

Programs in Regions of Texas:

Nurse Aide Training and Competency Evaluation Programs
http://www.dads.state.tx.us/providers/nf/credentialing/NATCEP/credtraining.cfm

INDUSTRIAL HYGIENIST

Industrial Hygienists evaluate health hazards in the work environment and make recommendations in an effort to keep employees safe from any potential health hazard. They use their specialized training to anticipate, evaluate, and control any health hazard that may exist in industry, government organizations, the community, or the environment. They often review reports and conduct research to determine if diseases or illnesses are work-related. They then consult with other health professional and management in an effort to neutralize or remove potentially hazardous materials from the occupational environment.

Some other duties performed by industrial hygienists include preparing and calibrating equipment used in collecting samples, collecting samples of potentially toxic materials, evaluating samples in a laboratory setting, reviewing accident reports, preparing reports of observations about industrial health problems, and using cost-benefit analysis to justify changes in procedure or the purchasing of protective equipment. Industrial hygienists are also responsible for conducting educational and training seminars that inform employees about occupational health and the prevention of workplace accidents. These professionals often work as part of a team and therefore must be articulate and have good communication skills. They must also be able to follow strict safety and procedural guidelines as well as remain calm in stressful situations.

Work Environment:

Industrial Hygienists may work alone or with industrial engineers, physicians, industrial managers, government officials, or other members of an industrial team. They are usually employed by government agencies, insurance agencies, environmental agencies, consulting firms, labor unions, or industry.

Salary:

Average Annual Salary: $44,300
Salary Range: $34,300-$58,200

Professional Organizations:

American Board of Industrial Hygiene
www.abih.org

American Industrial Hygiene Association
www.aiha.org

National Environmental Health Association
www.neha.org

High School Preparation:

Students interested in industrial hygiene should take high school courses in algebra, geometry, trigonometry, calculus, biology, chemistry, physics, English, health, computer skills, and health occupations/medical professions education.

College Requirements:

Individuals interested in becoming an industrial hygienist must have a high school diploma or equivalent. Students must complete a Bachelor of Science (BS) degree in occupational safety and health, environmental health engineering, physical science, or natural science. Most employers, however, prefer candidates with master's degrees in Occupational Safety and Health, Environmental Health Engineering, or Environmental Health Sciences. The American Board of Industrial Hygiene offers varying degrees of certification for individuals that have completed the required education.

Career Outlook:

Employment opportunities for industrial hygienists should be good over the next decade as the public demand for a safe and healthy work environment increases. This demand, however, will be balanced by a desire keep government small and federal regulations at a minimum. As a result, growth in this sector will occur at about the same rate as all other occupations through the year 2012. Since federal, state, and local governments employ nearly half of all industrial hygienists, job security is usually fairly high for these health professionals.

Texas Programs:

Texas A&M Health Science Center
http://www.srph.tamhsc.edu/environmental-health/index.html

The University of Texas – Dallas
http://www.utdallas.edu/ehs/industrialhyg/

University of Houston – Clear Lake
http://prtl.uhcl.edu/portal/page/portal/SCE/Natural_Sciences/Environ_Sciences/Environ_ScicesBS/Environ_indh

University of Texas Health Science Center - Houston
http://www.sph.uth.tmc.edu/eohs/

LABORATORY TECHNICIAN
(Clinical Laboratory Technologist)

Medical and Clinical Laboratory Specialist/Technicians/Technologists generally have a bachelor's degree in medical technology or in one of the life sciences, or they have a combination of formal training and work experience. They perform complex chemical, biological, hematological, immunologic, microscopic, and bacteriological tests to identify, diagnose, and treat diseases.

Technologists microscopically examine blood, tissue, and other body substances. They make cultures of body fluid and tissue samples, to determine the presence of bacteria, fungi, parasites, or other microorganisms. They analyze samples for chemical content or reaction and determine blood glucose and cholesterol levels. They also type and cross match blood samples for transfusions.

Medical and clinical laboratory technologists evaluate test results, develop and modify procedures, and establish and monitor programs, to ensure the accuracy of tests. Some medical and clinical laboratory technologists supervise medical and clinical laboratory technicians. They also supervise technicians, confirm their tests, and manage laboratory quality control programs. Most clinical laboratory specialists work in hospitals, but private practices, medical groups, research laboratories, pharmaceutical companies, and universities also employ them.

Average Salary: $32,400

Educational Requirements:

Students need a high school diploma or an equivalent. An associate's degree in the field or completion of a specialized in-house training program is required to become a clinical laboratory technician. A bachelor's degree in the field is normally required to become a clinical technologist, however some employers accept an associate's degree and extensive clinical experience as a substitute. Many technologists pursue additional graduate education or specialized training to advance their careers in clinical chemistry, blood banking, and microbiology.

Associated Affiliations:

American Medical Technologists
http://www.americanmedtech.org/

Medical Technology
http://www.medtech.armstrong.edu/links.html

Texas Programs:

Amarillo College
http://catalog.actx.edu/content.php?catoid=10&navoid=349

Angelo State University
http://www.angelo.edu/dept/admissions/degreeprograms.html

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Baylor University
http://www.baylor.edu/admissions/index.php?id=54974

Central Texas College
http://www.ctcd.edu/mlt/index.htm

Dallas County Community College
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

El Centro College
http://www.elcentrocollege.edu/Program/

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

McLennan Community College
http://www.mclennan.edu/departments/hsp/mlt/

Midwestern State University
http://www.mwsu.edu/profiles/viewcolleges.asp

Navarro College
http://www.navarrocollege.edu/areas-of-study-overview.php

San Antonio College
http://www.alamo.edu/sac/alldhlth/default.htm

San Jacinto College
http://www.sanjac.edu/degrees-certificates

South Plains College
http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

St. Philip's College
http://www.alamo.edu/spc/acad/ahd/default.aspx

Tarleton State University
http://www.tarleton.edu/catalog/undergraduate-academic-programs/undergrad-degrees.html

Texas A&M University - Corpus Christi
http://www.tamucc.edu/academics/index.html

Texas Southmost College
http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx

Texas Southern University
http://www.cost.tsu.edu/WebPages/departments.html

Tyler Junior College
http://www.tjc.edu/nhp/

University of Mary Hardin-Baylor
http://undergrad.umhb.edu/

University of Texas at El Paso
http://www.utep.edu/academicprograms/

University of Texas at San Antonio
http://www.utsa.edu/academics/academic-departments.html

University of Texas at Tyler
http://www.uttyler.edu/academics/

University of Texas of the Permian Basin
http://www.utpb.edu/future-students/undergraduate-programs/

University of Texas - Pan American
http://www.utpa.edu/academics/degree-programs/

Victoria College
http://www.victoriacollege.edu/healthcareers

LICENSED VOCATIONAL NURSE
(LICENSED PRACTICAL NURSE)

Training lasting about one (1) year is available in about 1,100 State-approved programs, mostly in vocational or technical schools. Nursing care facilities will offer the most new jobs. Applicants for jobs in hospitals may face competition as the number of hospital jobs for LVN/LPNs declines. Licensed practical nurses (LPNs), or licensed vocational nurses (LVNs), care for the sick, injured, convalescent, and disabled under the direction of physicians and registered nurses. Most LVN/LPNs provide basic bedside care, taking vital signs such as temperature, blood pressure, pulse, and respiration. They also prepare and give injections and enemas, monitor catheters, apply dressings, treat bedsores, and give alcohol rubs and massages. LVN/LPNs monitor their patients and report adverse reactions to medications or treatments.

They collect samples for testing; perform routine laboratory tests, feed patients, and record food and fluid intake and output. To help keep patients comfortable, LVNs/LPNs assist with bathing, dressing, and personal hygiene. In States where the law allows, they may administer prescribed medicines or start intravenous fluids. Some LVNs/LPNs help deliver, care for, and feed infants. Experienced LVNs/LPNs may supervise nursing assistants and aides.
In addition to providing routine beside care, LVNs/LPNs in nursing care facilities help evaluate residents' needs, develop care plans, and supervise the care provided by nursing aides. In doctors' offices and clinics, they also may make appointments, keep records, and perform other clerical duties. LVNs/LPNs who work in private homes may prepare meals and teach family members simple nursing tasks.

Most licensed practical nurses in hospitals and nursing care facilities work a 40-hour week, but because patients need around-the-clock care, some work nights, weekends, and holidays. They often stand for long periods and help patients move in bed, stand, or walk. LVNs/LPNs may face hazards from caustic chemicals, radiation, and infectious diseases such as hepatitis. They are subject to back injuries when moving patients and shock from electrical equipment. They often must deal with the stress of heavy workloads.

Licensed practical nurses hold over 700,000 jobs. About 28 percent of LVNs/LPNs work in hospitals, 26 percent in nursing care facilities, and another 12 percent in offices of physicians. Others work for home healthcare services, employment services, community care facilities for the elderly, public and private educational services, outpatient care centers, and Federal, State, and local government agencies; about 1 in 5 worked part time.

Training, Other Qualifications, and Advancement:

All States and the District of Columbia require LVNs/LPNs to pass a licensing examination after completing a State-approved practical nursing program. A high school diploma or its equivalent usually is required for entry, although some programs accept candidates without a diploma or are designed as part of a high school curriculum.
There are approximately 1,100 State-approved programs that provide training in practical nursing. Almost 6 out of 10 students were enrolled in technical or vocational schools, while 3 out

of 10 were in community and junior colleges. Others were in high schools, hospitals, and colleges and universities.

Most practical nursing programs last about 1 year and include both classroom study and supervised clinical practice (patient care). Classroom study covers basic nursing concepts and patient care-related subjects, including anatomy, physiology, medical-surgical nursing, pediatrics, obstetrics, psychiatric nursing, and the administration of drugs, nutrition, and first aid. Clinical practice usually is in a hospital, but sometimes includes other settings.

LVNs/LPNs should have a caring, sympathetic nature. They should be emotionally stable, because work with the sick and injured can be stressful. They also should have keen observational, decision-making, and communication skills. As part of a healthcare team, they must be able to follow orders and work under close supervision.

Job Outlook:

Employment of LVNs/LPNs is expected to grow about as fast as the average for all occupations through 2012 in response to the long-term care needs of an increasing elderly population and the general growth of healthcare. Replacement needs will be a major source of job openings, as many workers leave the occupation permanently.

Applicants for jobs in hospitals may face competition as the number of hospital jobs for LVNs/LPNs declines. An increasing proportion of sophisticated procedures, which once were performed only in hospitals, is being performed in physicians' offices and in outpatient care centers such as ambulatory surgical and emergency medical centers, due largely to advances in technology. Consequently, employment of LVNs/LPNs is projected to grow faster than average in these sectors as healthcare expands outside the traditional hospital setting.

Employment of LVNs/LPNs in nursing care facilities is expected to grow faster than the average. Such facilities will offer the most new jobs for LVNs/LPNs as the number of aged and disabled persons in need of long-term care rises. In addition to caring for the aged and the disabled, LVNs/LPNs in nursing care facilities will care for the increasing number of patients who will have been discharged from the hospital, but have not recovered enough to return home.

Employment of LVNs/LPNs is expected to grow much faster than average in home healthcare services. This growth is in response to an increasing number of older persons with functional disabilities, consumer preference for care in the home, and technological advances that make it possible to bring increasingly complex treatments into the home.

Average Salary: $25,500 - $38,500

Sources of Additional Information:

National League for Nursing
http://www.nln.org/

National Federation of Licensed Practical Nurses
http://www.nflpn.org/

National Association for Practical Nurse Education and Service, Inc.
http://napnes.org/drupal-7.4/

Texas LVN Programs:

Alamo Community Colleges
http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Alvin Community College
http://www.alvincollege.edu/degrees/

Amarillo College
http://www.actx.edu/dental_hy/

Austin Community College
http://www.austincc.edu/health/dhyg/

Blinn College
http://www.blinn.edu/academics/degrees.html

Brazosport College
http://www.brazosport.edu/sites/FutureStudents/Programs/default.aspx

Central Texas College
http://www.ctcd.edu/nursing/index.htm

Clarendon College
http://www.clarendoncollege.edu/students/academics.php

Coastal Bend College
http://vct.coastalbend.edu/content/index.cfm/fa/viewpage/category_id/703.htm

Collin County Community College
http://ftp.ccccd.edu/dentalhygiene/

College of the Mainland
http://www.com.edu/degrees-programs/degrees-certifications.php

Dallas County Community College
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

Del Mar College
http://www.delmar.edu/dh/index.html

El Centro College
http://www.elcentrocollege.edu/Program/

El Paso Community College
http://www.epcc.edu/instruction/InstructionalProgramsHome/DentalHygiene/tabid/9696/language/en-US/Default.aspx

Frank Phillips College
http://www.fpctx.edu/Students/DegreesCerts/DegreesCerts_03042010.htm
Galveston College: http://www.gc.edu/gc/Health_Sciences.asp?SnID=807583250

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Hill College
http://www.hillcollege.edu/info/departments/

Howard College
http://www.howardcollege.edu/

Kilgore College
http://www.kilgore.edu/programs.asp

Kingwood College
http://www.lonestar.edu/dental-hygiene-dept.htm

Lamar State College – Orange
http://www.lsco.edu/alliedhealth/alliedhealth.asp

Lamar State College – Port Arthur
http://www.lamarpa.edu/?url=/dept/ah/index.html

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lee College
http://www.lee.edu/degreeCerts.asp

Lone Star College
http://lonestar.edu/programs-classes.htm

McLennan Community College
http://www.mclennan.edu/students/admissions/aprog.html

Midland College
http://www.midland.edu/students/academics/allprograms.php

Navarro College
http://www.navarrocollege.edu/areas-of-study-overview.php

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=42&pid=1

Odessa College
http://www.odessa.edu/dept/

Panola College
http://www.panola.edu/healthscience/

Paris Junior College
http://www.parisjc.edu/index.php/pjc/content-pjc/programs-of-study/

Ranger College
http://www.rangercollege.edu/

South Plains College
http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Southwest Texas Junior College
http://www.swtjc.net/programs/workforce-training/nurse-aide-training.aspx

Temple College
http://www.templejc.edu/dept/Dental/Dental.htm

Texarkana College
https://www.texarkanacollege.edu/pages/156.asp

Texas Southmost College
http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Tyler Junior College
http://www2.tjc.edu/dental/

Vernon College
http://www.vernoncollege.edu/uploadedFiles/VC/INSTRUCTIONAL_SERVICES/Course_Schedule_Advising/VC%20Programs-Areas%20of%20Study%2010-11.pdf

Victoria College
http://www.victoriacollege.edu/healthcareers

Weatherford College
http://www.wc.edu/programs-of-study/health-professions

Western Texas College
http://www.wtc.edu/career_tech.html

Wharton County Junior College
http://www.wcjc.edu/ed_programs_n/allied_health/dental_hygiene/default.asp

MEDICAL BILLING CLERK

Medical Billing Clerks are responsible for compiling and maintaining records of charges for goods and services rendered at any health care facility. Once they calculate the total amount due from a patient, they must prepare invoices to be sent out and ensure prompt payment. Another major responsibility for a medical billing clerks is to contact insurance companies to determine what goods and services will be reimbursed and for how much. Most medical billing clerks use sophisticated computer programs that allow them to calculate charges and print bills in one step. These programs also serve as a safety net because the billing party has to verify the information that is entered and correct any errors before the bill is printed and sent to the patient. Other responsibilities may include handling follow-up questions from patients, resolving discrepancies or errors, and ensuring that all billing and accounting records are kept in a safe place. Billing clerks may work part-time or full-time, as well as evenings and weekends depending on the type of employment. Individuals interested in medical billing must be highly organized, pay close attention to details, have good analytical skills, and be able to work well under pressure.

Work Environment:

Medical billing clerks work in a variety of different health care settings. These include hospitals, outpatient clinics, home health agencies, insurance agencies, long-term care facilities, consulting firms, government agencies, and private industries.

Salary:

Average Annual Salary: $26,600
Salary Range: $23,700 - $28,800

Professional Organizations:

The Medical Association of Billers
www.physicians websites.com

High School Preparation:

Students interested in pursuing a career in medical billing should take high school courses in algebra, biology, computer skills, English, typing, data processing, and health occupations/medical professions education.

College Requirements:

Students interested in medical billing must have a high school diploma or the equivalent. Many employers prefer individuals with at least some college course work in business and/or accounting. Formal certification or registration is not required to become a medical biller, but billing clerks may be required to complete continuing education in order to stay current with the newest computer programs that are used in this profession.

Career Outlook:

The health services industry will continue to be the largest employer of billing professional. Employment opportunities for medical billing clerks are expected to grow modestly of the next decade. Growth for this sector will result from health care facilities putting greater emphasis on getting bills out faster and getting payment in quicker. Balancing out this growth will be more reliance on computer technology that will continue to simplify the billing process, and therefore require fewer billing clerks to handle the workload.

Texas Programs:

Anthem College
http://www.anthem.edu/aurora-colorado/massage-therapy/diploma/

Concorde Career College
http://www.concorde.edu/campus/arlington

Everest College
http://www.everest.edu/programs/category/medical-insurance-billing-and-coding

Fortis College
http://www.fortis.edu/medicalBilling.php

Hallmark College
http://www.hallmarkcollege.edu/programs-School-Of-Allied-Health.aspx

Kaplan College
http://wsan-antonio.kaplancollege.com/Pages/Medical_Billing_And_Coding_Diploma.aspx

Milan Institute
http://www.milaninstitute.edu/mmb/healthcare-billing-coding.htm

National American University
http://www.national.edu/programs/undergraduate-studies/diplomas/healthcare-coding

Remington College
http://www.remingtoncollege.edu/medical-insurance-coding-overview/

Sanford-Brown
http://www.sanfordbrown.edu/Areas-Of-Study/Allied-Health-Technicians-And-Therapists/Medical-Billing-And-Coding

South Texas Vocational Technical Institute
http://www.trade-schools.net/south-texas-vocational-technical-institute/medical-administrative-coding-specialist.asp

Texas School of Business
http://friendswood.tsb.edu/Pages/Medical_Billing_and_Coding_Diploma.aspx

Virginia College
http://www.vc.edu/diplomas/medical-billing-training-medical-coding.cfm

MEDICAL CODING SPECIALIST

Medical coding specialists read and review medical documentation provided by physicians and other health care providers in order to obtain detailed information regarding their disease, injuries, surgical operations, and other procedures. This detailed information is translated into numeric codes. The coding specialist assigns and sequences diagnostic and procedural codes using a universally recognized coding system. Using this official classification system, coders must insure correct code selection for compliance with federal regulation and insurance requirements. These medical codes are used extensively for reimbursement of hospital and physician claims for Medicare, Medicaid, and insurance payments. The information compiled by the medical coders is used to prepare statistical reports for use by clinic and hospital administrators for planning, marketing, and other management purposes. Local, state, and federal governments also use this information to identify health care concerns critical to the public at large. Knowledge of both the medical and business sides of health care are essential in this detail-oriented field of health information management.

Work Environment:

Medical coding specialist work in hospitals, clinics, surgery centers, long-term care facilities, insurance companies, dental offices, home health care agencies, consulting firms, coding and billing services, and government agencies. They typically work under the supervision of the Health Information Manager or Chief Financial Officer.

Salary:

Average Annual Salary: $28,500
Salary Range: $20,000-$36,000

Professional Organizations:

American Academy of Professional Coders
http://www.aapc.com/

American Health Info. Management Association
http://www.ahima.org/

High School Preparation:

Students interested in pursuing a career in medical coding should take high school courses in algebra, biology, computer skills, English, typing, office procedures, data processing, and health occupations/medical professions education.

College Requirements:

Individuals interested in medical coding should have a high school diploma or equivalent. An Associate's Degree is recommended and is often two years in length. Training may be available on-the-job as well as through continuing education classes offered by state associations or organizations. Individuals desiring to become a certified medical coder must pass

examinations offered by the American Health Information Management Association (AHIMA) and the American Academy of Professional Coders (AAPC).

Career Outlook:

There is an outstanding future for medical coding specialists because of the increased scrutiny over medical records by the government and insurance companies. In an effort to control costs, complete and accurate records are becoming a necessity in order for hospitals and clinics to receive money from Medicare and Medicaid. As technology changes the world of medical records keeping, there will be an increased need for coders with the most current knowledge of new technologies. As in most occupations, many openings will result from the need to replace employees who transfer to other companies, retire, or stop working for various other reasons.

Texas Programs:

Anthem College
http://www.anthem.edu/aurora-colorado/massage-therapy/diploma/

Concorde Career College
http://www.concorde.edu/campus/arlington

Everest College
http://www.everest.edu/programs/category/medical-insurance-billing-and-coding

Fortis College
http://www.fortis.edu/medicalBilling.php

Hallmark College
http://www.hallmarkcollege.edu/programs-School-Of-Allied-Health.aspx

Kaplan College
http://wsan-antonio.kaplancollege.com/Pages/Medical_Billing_And_Coding_Diploma.aspx

Milan Institute
http://www.milaninstitute.edu/mmb/healthcare-billing-coding.htm

National American University
http://www.national.edu/programs/undergraduate-studies/diplomas/healthcare-coding

Remington College
http://www.remingtoncollege.edu/medical-insurance-coding-overview/

Sanford-Brown
http://www.sanfordbrown.edu/Areas-Of-Study/Allied-Health-Technicians-And-Therapists/Medical-Billing-And-Coding

South Texas Vocational Technical Institute
http://www.trade-schools.net/south-texas-vocational-technical-institute/medical-administrative-coding-specialist.asp

Texas School of Business
http://friendswood.tsb.edu/Pages/Medical_Billing_and_Coding_Diploma.aspx

Virginia College
http://www.vc.edu/diplomas/medical-billing-training-medical-coding.cfm

MEDICAL ILLUSTRATOR

Medical illustrators are those rare individuals who have demonstrated artistic ability and a detailed knowledge of human and animal anatomy, as well as knowledge of surgical and medical procedures. They create graphic representations of medical or biological subjects for use in textbooks, pamphlets, exhibits, instructional films, civil/criminal legal procedures, and teaching models. Medical illustrators are increasingly turning toward technology to help them perform their duties. They use the most up-to-date computers and graphic design software to describe and illustrate a variety of complicated medical concepts and processes. Medical illustrators can even specialize in certain anatomical areas such as the brain or heart. A major function of the medical illustrator is assist in education and research. They are often called upon to draw illustrations or produce three-dimensional models in order to assist teachers and other medical professionals with difficult biological concepts. An individual interested in this line of work should be detail oriented and also be creative enough to communicate their ideas visually.

Work Environment:

Medical illustrators may be employed in medical schools, hospitals, research organizations, publishing companies, advertising agencies, pharmaceutical manufacturers, or large medical centers with teaching and research programs. Many medical illustrators are free-lance artists that contract out for their services.

Salary:

Average Annual Salary: $40,500
Salary Range: $30,400 - $60,500

Professional Organizations:

Association of Medical Illustrators
http://www.ami.org/

Guild of Natural Science Illustrators

High School Preparation:

Students interested in a career as a medical illustrator should take high school courses in art, biology, chemistry, algebra, drawing and design, English, history, graphic arts, printing, health occupations/medical professions education, photography, and computer illustration.

College Requirements:

In order to become a medical illustrator, a student must have specialized training in art and the biological sciences. A bachelor's degree combining art and premedical courses is usually preferred, followed by a master's degree in medical illustration. There are only five accredited master's degree programs in the entire country, and they only accept a limited number of students. Therefore, an excellent academic record as well as an outstanding portfolio of your artwork is necessary.

Career Outlook

Medical illustration is a very small and competitive field. Employment opportunities for illustrators are expected to grow about as fast as all other professions. There is a projected growth of between 10% and 25% in this job market through the year 2010. Medical illustrators will continue to be utilized in the educational field. As technology changes the way we educate our students, illustrators will be needed to produce state-of-the are computer models of biological processes in order to help teachers stay on the cutting edge. Anyone who enjoys science and is an exceptional artist should consider a career as a medical illustrator.

Advanced Medical Illustrating:

Georgia Health Sciences University
http://www.mcg.edu/medart/

Johns Hopkins University School of Medicine
http://www.hopkinsmedicine.org/medart/

University of Illinois
http://www.ahs.uic.edu/bhis/

University of Texas Southwestern Medical Center at Dallas
http://www.utsouthwestern.edu/biomedcom/

University of Toronto
http://www.bmc.med.utoronto.ca/bmc/

MEDICAL PHOTOGRAPHER

Medical photographers, also known as biomedical photographers, are those rare individuals who have both a demonstrated artistic ability and a detailed knowledge of scientific processes. They use their skills and abilities to document scientific information that relates to biology, chemistry, medicine, and other health-related subjects. These photographic representations of medical and biological subjects are sometimes used in textbooks, pamphlets, exhibits, instructional films, civil/criminal legal procedures, and teaching models. They may also document surgical procedures, record a patient's medical progress over a period of time, or photograph an autopsy. A major function of the medical photographer is to assist in education and research. They make prints of charts and graphs, digitize images, use photomicrography to allow microscopic objects appear in full detail, and process photographs of many different anatomical areas in an effort to increase understanding of the human body and the diseases that affect it. Medical photographers are increasingly using technology to help them perform their duties. They use the most up-to-date computers and photographic design software, such as Photo Shop, to clarify a variety of complicated medical concepts and processes. An individual interested in this line of work should be detail oriented and also be creative enough to communicate their ideas visually.

Work Environment:

Medical photographers may be employed in medical schools, hospitals, research organizations, publishing companies, advertising agencies, pharmaceutical manufacturers, or health organizations. Many medical photographers are free-lance artists that contract out for their services, but some are employed in part-time and full-time positions.

Salary:

Average Annual Salary: $32,400
Salary Range: $29,100-$38,300

Professional Organizations:

BioCommunications Association
http://www.bca.org/

Health Sciences Communications Association
http://www.hesca.org/

High School Preparation:

Students interested in a career as a medical photographer should take high school courses in art, biology, chemistry, algebra, photography, drawing and design, English, history, graphic arts, printing, health occupations/medical professions education, and computer illustration.

College Requirements:

Individuals interested in medical photography must have a high school diploma or equivalent. Graduation from an associate or bachelor's degree program, with a great deal of photography experience, is necessary to become a medical photographer. Certification is offered

by the Biocommunication's Association Board of Registry in order to become a Registered Biological Photographer (R.B.P.). After all educational requirements are met, an individual must pass written, practical, and oral examinations in order to become a R.B.P. Students interested in medical photography should contact schools for information on admission and course of study.

Career Outlook:

Medical photography is a relatively small and competitive field. Employment opportunities for photographers are expected to grow about as fast as all other professions. There is a projected growth of between 10% and 25% in this job market through the year 2010. Medical photographers will continue to be utilized in the educational field. As technology changes the way we educate our students, photographer will be needed to produce state-of-the are computer representations of biological processes in order to help teachers stay on the cutting edge. Anyone who enjoys science and is an exceptional artist should consider a career in medical photography.

Photography Programs:

Lamar University
http://dept.lamar.edu/cofac/deptart/photography.asp

Texas Tech University
http://www.depts.ttu.edu/officialpublications/catalog/MC_EMC.php

University of Houston
http://www.art.uh.edu/undergrad/photo/progDesc.htm

University of North Texas
http://www.art.unt.edu/photography.html

University of Texas - San Antonio
http://www.uta.edu/art/index.php/undergrad/photography/

University of Texas - San Antonio
http://art.utsa.edu/programs/photography/

MEDICAL SECRETARY

Medical Secretaries perform a variety of administrative and clerical duties in an effort to support the professionals that work in health related fields. They perform tasks such as answering phone calls, handling and preparing correspondence, keeping accurate and up-to-date records, making appointments, transcribing dictation, and completing insurance and other medical forms. One of the main responsibilities of a medical secretary is to make sure that the office runs smoothly. They must be well organized in order to maximize the efficiency of their employer's time. These secretarial positions require excellent computer skills in word processing, database management, and spreadsheets. Medical secretaries are often required to recognize and understand scientific as well as medical terminology. Duties vary depending on the size of the institution that one is employed. In smaller offices, they may be required to greet patients, keep medical records, or act as a receptionist. In larger institutions, they might be personal secretaries to a department head or work in the medical records department with several other administrative staff. Anyone interested in becoming a medical secretary should have good communication skills and enjoy working in the health care field.

Work Environment:

Medical secretaries can work in a number of different health care delivery facilities. The most popular places of employment are hospitals, clinics, insurance companies, doctor's offices, local or state health departments, group medical practices, and medical research departments.

Salary:

Average Annual Salary: $22,500
Salary Range: $18,700 - $26,400

Professional Organizations:

American Assoc. for Medical Transcription
http://www.themtassist.com/blog/american-association-for-medical-transcription/

Professional Secretaries International
http://www.main.org/psi/index.html

High School Preparation:

Students interested in becoming a medical secretary should take high school courses in word processing, algebra, introduction to business, business computer applications, English, shorthand, record keeping, composition, health occupations/medical professions education, and cooperative office education.

College Requirements:

Individuals interested in medical secretarial work need to have a high school diploma or equivalent. Since medical secretaries need to have a certain degree of medical knowledge, employers usually prefer an individual with an associate's degree. Training and educational courses should include medical terminology, insurance billing, and dictation and word

processing skills. Students interested in this line of work should contact schools for information on admission and course of study.

Career Outlook:

Employment opportunities for medical secretaries will be good over the next decade. There is an expected increase in employment of 10%-20% through the year 2010. The overall growth in the health services industry should be a major contributing factor for the expansion of this job market. There is also a trend toward secretaries assuming more responsibilities that would have otherwise been done by managers or other professionals. As in most occupations, many openings will result from the need to replace workers who transfer to other companies, retire, or stop working for some other reason.

Schools In Texas:

Alvin Community College
http://www.alvincollege.edu/degrees/

Blinn College
http://www.blinn.edu/academics/degrees.html

Central Texas College
http://www.ctcd.edu/nursing/index.htm

Coastal Bend College
http://vct.coastalbend.edu/content/index.cfm/fa/viewpage/category_id/702.htm

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

Galveston College
http://www.gc.edu/gc/Health_Sciences.asp?SnID=807583250

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Kilgore College
http://www.kilgore.edu/programs.asp

Lamar State College- Orange
http://www.lsco.edu/alliedhealth/alliedhealth.asp

Lamar State College- Port Arthur
http://www.lamarpa.edu/?url=/dept/ah/index.html

Lone Star College System
http://lonestar.edu/programs-classes.htm

McLennan Community College
http://www.mclennan.edu/students/admissions/aprog.html

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=73&pid=3

Odessa College
http://www.odessa.edu/dept/

San Jacinto Community College
http://www.sanjac.edu/degrees-certificates

St Philips College
http://www.alamo.edu/spc/acad/ahd/default.aspx

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Tyler Junior College
http://www.tjc.edu/nhp/

Victoria College
http://www.victoriacollege.edu/healthcareers

MEDICAL TRANSCRIPTIONIST

Medical Transcriptionists translate dictation from physicians and other health care professionals and type the information out in transcript form so that it can be use for medical records. Since this information is in recorded form, transcriptionists must have extensive knowledge of medical terminology as well as be able to accurately spell a variety of medical terms. Because these reports are for medical history files, transcriptionists must be able to type rapidly while maintaining accuracy in spelling. They also edit the information that is gathered to insure proper grammar and accuracy. Much of their time is spent sitting at a computer terminal and there is virtually no contact with patients. Medical transcriptionists must also have knowledge of the laws regarding medical records documentation because they are dealing with confidential medical information. Transcriptionists may work part-time or full-time, as well as evenings and weekends depending on the type of employment. Individuals interested in medical transcription must be highly organized and pay close attention to details. They must also have good analytical skills, be able to work well under pressure, and posses good judgment.

Work Environment:

Medical transcriptionists may be self-employed and work on a contractual basis. They may also be employed by hospitals, clinics, physician's offices, health maintenance organizations (HMOs), medical transcription companies, public health agencies, home health care agencies, or nursing homes.

Salary:

Average Annual Salary: $27,900
Salary Range: $22,500-$31,500

Professional Organizations:

American Association for Medical Transcription (AAMT)
http://www.themtassist.com/blog/american-association-for-medical-transcription/

High School Preparation:

Students interested in becoming a medical transcriptionist should take high school courses in word processing, algebra, and introduction to business, business computer applications, English, shorthand, record keeping, composition, health occupations/medical professions education, and cooperative office education.

College Requirements:

Individuals interested in medical transcription should have a high school diploma or equivalent. Since transcriptionists need to have a certain degree of medical knowledge, employers usually prefer an individual with an associate's degree in medical transcription. Some individuals, however, are trained on the job while others obtain certificates. Upon completion of a program, students can become a Certified Medical Transcriptionist (CMT) by passing examinations given by the American Association of Medical Transcription.

Students interested in this line of work should contact schools for information on admission and course of study.

Career Outlook:

Employment opportunities for medical transcriptionists will be excellent over the next decade. There is an expected increase in employment of 21% - 35% through the year 2012. The overall growth in the health services industry should be a major contributing factor for the expansion of this job market. Demand for transcription services will be spurred on by the continued need for electronic documentation that can be easily shared among health care providers and government regulators. Employment opportunities will be greatest for those individuals that earn an associate's degree and/or certification from the American Association for Medical Transcription.

Texas Programs:

Collin College
http://www.collin.edu/academics/programs/index.html

College of the Mainland
http://www.com.edu/degrees-programs/degrees-certifications.php

El Centro College
http://www.elcentrocollege.edu/Program/

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Howard College
http://www.howardcollege.edu/

Lee College
http://www.lee.edu/degreeCerts.asp

Lone Star College System
http://lonestar.edu/programs-classes.htm

McLennan Community College
http://www.mclennan.edu/students/admissions/aprog.html

Midland College
http://www.midland.edu/students/academics/allprograms.php

San Antonio College
http://www.alamo.edu/sac/alldhlth/default.htm

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Texas State Technical College
http://harlingen.tstc.edu/Careers/HealthAndSciences.aspx

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Tyler Junior College
http://www.tjc.edu/nhp/

Vernon College
http://www.vernoncollege.edu/uploadedFiles/VC/INSTRUCTIONAL_SERVICES/Course_Schedule_Advising/VC%20Programs-Areas%20of%20Study%2010-11.pdf

MEDICAL WRITER

Medical writers analyze and interpret complex health related issues for use by other professional or the general public. They present their work in publications such as professional journals, newspaper health columns, television and radio broadcasts, brochures, textbooks, and instructional manuals. Their main objective is to present these complicated medical issues in the clearest and most concise terms, so that a layperson can understand the material as well as the most highly educated professional. Medical writers are sometimes employed by publishing companies or hospitals, but many are free-lance writers who work on a contract basis. These technical writers spend the majority of their productive working hours writing textbooks, information for educational courses, scripts for radio and television advertisements, and journal and newsletters for a variety of publications and organizations. Anyone considering medical writing should seek an education that consists of English, literature, journalism, as well as biological sciences. Individuals interested in a career in medical writing should be highly educated in biology and medical terminology as well as have excellent communication skills, especially written.

Work Environment:

Many medical writers are self-employed and work on a contract basis. Some other areas of possible employment exist in publishing companies, pharmaceutical companies, advertising agencies, educational institutions, hospitals, government agencies, radio and television stations, and medical equipment companies.

Salary:

Average Annual Salary: $49,500
Salary Range: $35,500-$62,400

Professional Organizations:

American Medical Writer's Association
http://www.amwa.org/default.asp?Mode=DirectoryDisplay&id=1&DirectoryUseAbsoluteOnSearch=True

Health Sciences Communications Assoc.
http://www.hesca.org/

National Association of Science Writers, Inc.
http://www.nasw.org/

High School Preparation:

Students interested in a career as a medical writer should take high school courses in biology, chemistry, physics, anatomy and physiology, English, literature, algebra, geometry,

psychology, social sciences, computer skills, writing, and health occupations/medical professions education.

College Requirements:

Individuals interested in medical writing must have a high school diploma or the equivalent. The majority of medical writers need to know the same terminology as other health professionals and have at least a bachelor's degree. They usually earn degrees in some type of science, but they may also major in English or journalism and minor in a science. The American Medical Writers Association offers certification for individuals who complete certain workshops and continuing education courses. Other professional experience may be required for certification.

Career Outlook:

Employment opportunities for medical writers are expected to increase by 25%-35%, which is faster than the average for all occupations through the year 2010. Technical writers with expertise in an area such as medicine or biology will be in great demand with the continuing expansion of scientific and technical information and the need to communicate it to others. As new discoveries are being made every day, a medical writer will see an increase in employment because of the need to communicate this highly technical information to a general audience. Technological advancements and the increasing use of the Internet will also have a positive effect on employment in this field.

Programs below are in creative writing and will help lead to a career in medical and scientific writing.

Programs in Texas:

Baylor University
http://www.baylor.edu/admissions/index.php?id=54974

Hardin-Simmons University
http://www.hsutx.edu/academics/undergraduate/

Sam Houston State University
http://www.shsu.edu/catalog/degrees.html

Stephen F. Austin State University
http://www.sfasu.edu/44.asp

Texas A&M University
http://admissions.tamu.edu/freshmen/whyaggieland/UniquePrograms/colleges/

Texas State University - San Marcos
http://www.txstate.edu/about/degree_list.html

Texas Tech University
http://www.ttu.edu/academics/programs_degree.php

University of Houston
http://www.uh.edu/academics/majors-minors/majors/index.php

University of North Texas
http://www.unt.edu/pais/insert/undergradList.htm

University of Texas at Austin
http://www.utexas.edu/student/admissions/ugdegrees.html

University of Texas at Dallas
http://www.utdallas.edu/academics/

University of Texas at El Paso
http://www.utep.edu/academicprograms/

University of Texas at San Antonio
http://www.utsa.edu/academics/academic-departments.html

MEDICAL ASSISTANT

Medical assistants help physicians and nurses deliver patient care by performing clinical and administrative tasks. A medical assistant's administrative tasks consist of keeping medical records, greeting patients, billing and clerical duties, scheduling appointments, arranging for admission to the hospital and laboratory services, and checking supplies.

Clinical responsibilities of a medical assistant consist of:

- Documenting vital signs (e.g. blood pressures, pulse, respirations, and temperature);
- Performing simple lab tests;
- Preparing patients for examination;
- Arranging equipment and instruments before an exam;
- Assisting physicians with exams, treatments, medications, diet schedules, and procedures for patients.
- Some medical assistants may also remove sutures, draw blood, and change dressings.

Medical assistants primarily work in outpatient settings but may work in hospitals, or specialty offices. Medical and clinical laboratory technologists generally have a bachelor's degree in medical technology or in one of the life sciences, or they have a combination of formal training and work experience.

Average Salary: $17,000 - $24,500

Educational Requirements:

Students should have a high school diploma or an equivalent. Medical assistant training programs are provided by community colleges and vocational/technical training schools. They may take between six months and two years to complete.

Associated Affiliations:

American Association of Medical Assistants
http://www.aama-ntl.org/

Texas Schools:

Alamo Community Colleges
http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Cisco College
http://www.cisco.edu/s/926/start.aspx
College of the Mainland
http://www.com.edu/degrees-programs/degrees-certifications.php

Dallas County Community College
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Howard College
http://www.howardcollege.edu/

Lamar State College – Orange
http://www.lsco.edu/alliedhealth/alliedhealth.asp

Lamar State College – Port Arthur
http://www.lamarpa.edu/?url=/dept/ah/index.html

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lone Star College
http://lonestar.edu/programs-classes.htm

McLennan Community College
http://www.mclennan.edu/students/admissions/aprog.html

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=73&pid=3

Panola College
http://www.panola.edu/healthscience/

Paris Junior College
http://www.parisjc.edu/index.php/pjc/content-pjc/programs-of-study/

Richland College
http://www.richlandcollege.edu/hp/

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Texas State Technical College
http://harlingen.tstc.edu/Careers/HealthAndSciences.aspx

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Victoria College
http://www.victoriacollege.edu/healthcareers

MEDICAL TECHNOLOGIST
(CLINICAL LABORATORY SCIENTIST)

Clinical Laboratory Science is a profession that combines the challenges and rewards of basic science, medicine and technology. As a vital member of the health care team, the clinical laboratory scientist works closely with pathologists and other physicians to uncover clues to disease. Clinical Laboratory Scientists have certain common characteristics, among these are:

- A strong desire to help others.
- They are problem-solvers who enjoy challenge and responsibility.
- They are accurate and reliable.
- They have a strong interest and ability in science.
- They have a high degree of commitment to their profession.

Clinical Laboratory Scientists are responsible for the performance of routine and specialized tests in the clinical laboratory. They are educated to correlate test results with the physiological condition of patients. Physicians utilize these results to determiner the diagnosis, prognosis, and treatment of disease. Areas of laboratory medicine in which the Clinical Laboratory Scientists are involved include hematology, clinical chemistry, immunology, homeostasis, immuno-hematology, serology, microbiology (including parasitology, mycology, and virology), and urinalysis.

In addition to hospitals, Clinical Laboratory Scientists may be employed in veterinary schools and clinics, research, reference laboratories, physician's offices, industry, and biotechnology companies. Opportunities also exist for those interested in management/administration and education. For those who wish to further education, clinical laboratory science can serve as a stepping stone to graduate degrees in biochemistry, microbiology, immunology, pathology, medicine, dentistry, public health, or hospital administration.

A student choosing Clinical Laboratory Science/Medical Technology (CLS/MT) as a career should be aware of the different program formats available at institutions in Texas and elsewhere.

4 + 1 Programs:

A student completes a baccalaureate degree at a university or college of his/her choice and then applies to a hospital-based clinical education program for 12-18 months of clinical laboratory instruction. After completing clinical education, the person is eligible for certification as a Clinical Laboratory Scientist. In this case, the student is advised to select a science major in college such as biology, chemistry, or biochemistry. It is also possible for a student with a baccalaureate degree to enter university-based programs to complete the clinical education of his/her professional study.

3 + 1 Programs:

A student attends a college or university for three years and completes a minimum of 90 semester hours as a biology, chemistry, microbiology, or CLS/MT major. The student then applies to a hospital-based or university-based program. After completing the senior year in a clinical education program (either hospital-based or university-based) the student is awarded a

bachelor's degree in clinical laboratory sciences. Most "3+1" programs in Texas are joint programs offered through affiliation agreements between universities and hospitals. A degree may be awarded by the college or university, which the student attended the first three years, or by the university where the clinical education was obtained. Only those programs, which are administered by universities or university hospitals having degree granting authority, can award the degree.

2 + 2 Programs:

A student spends two years at a college or university completing a minimum of 60 hours of clinical laboratory science preparatory course work and then applies to a program that offers the last two years of clinical education. The junior year combines preparatory science course work with basic clinical courses. The senior year is entirely devoted to clinical education. The bachelor's degree is awarded by the institution, which offers the two-year clinical program.

Master Degree Programs:

Currently, there is one Masters Degree program in Texas at The University of Texas Science Center at San Antonio. The National Accrediting Agency for Clinical Laboratory Science (NAACLS) has established minimum requirements for admission to any accredited clinical laboratory science/medical technology program. A student should contact his/her health professions advisor concerning admission requirements of the program(s) of choice. Upon satisfactory completion, students are eligible for examination and certification by the appropriate agency.

Application to CLS/MT programs is usually made early in the year prior to the professional phase of study. Application dates and deadlines vary, so check with your health professions advisor or with the CLS/MT directors of the individual programs. Some CLS/MT programs require the applicant to take the Allied Health Professions Admission Test (AHPAT). More information regarding this test can be obtained from your health profession advisor.

Associations:

American Medical Technologists
http://www.amt1.com/

Clinical and Laboratory Standards Institute
http://www.nccls.org/

University-Based Programs:

Southwest Texas State University
http://www.health.txstate.edu/cls/about/history.html

Tarleton State University
http://www.tarleton.edu/COSTWEB/medicallab/index.html

Texas A&M University – Corpus Christi
http://lsci.tamucc.edu/bims/

Texas Tech University Health Sciences Center
http://www.ttuhsc.edu/sah/cls/

The University of Texas at El Paso
http://chs.utep.edu/cls/

The University of Texas Pan American
http://portal.utpa.edu/utpa_main/daa_home/hshs_home/clinlab_home

UT Health Science Center at San Antonio
http://shpwelcome.uthscsa.edu/

UT at Tyler
http://www.uttyler.edu/HKDept/cls/

UT Southwestern Medical Center
http://www.utsouthwestern.edu/utsw/cda/dept48935/files/53752.html

UT Medical Branch - Galveston
http://www.sahs.utmb.edu/cls/

Hospital-Based Programs:

Austin State Hospital
http://www.dshs.state.tx.us/mhhospitals/AustinSH/ResMedTech.shtm

Methodist Hospital
http://www.methodisthealth.com/basic.cfm?id=36616

Scott & White Memorial Hospital
http://healthcare-professionals.sw.org/division-of-education/clinical-laboratory-science

UT M.D. Anderson Cancer Center
http://www.mdanderson.org/education-and-research/education-and-training/schools-and-programs/school-of-health-professions/programs-and-courses/clinical-laboratory-science/index.html

MENTAL HEALTH COUNSELOR

Counselors are professionals who assist individuals and groups with their personal problems in order to help them become more self-sufficient. Individuals that specialize in mental health counseling concentrate on promoting optimum mental health through various programs and services. They help individuals deal with suicidal impulses, self-esteem issues, addictions and substance abuse, stress management, job and career concerns, marital problems, educational decisions, and issues associated with aging. Beginning with the interview process, mental health counselors make observations that help them determine a treatment plan that will accomplish their client's goals. They often use personality, aptitude, and psychological tests to determine more precisely the needs of a particular patient. They often work closely with other mental health professionals including psychiatrists, psychologists, and social workers to ensure that all of the patient's needs are being met. Mental health counselors are also responsible for maintaining records of tests and counseling services, and making sure that all records are kept confidential. They frequently conduct research and report their findings in professional and trade journals. Anyone interested in a career as a mental health counselor should be emotionally stable, sensitive to people's feelings, and have excellent oral and written communication skills.

Work Environment:

Mental health counselors are employed in a variety of settings including private practice, hospitals, correctional institutions, mental health clinics, schools and universities, drug and alcohol rehabilitation centers, halfway houses, and residential care facilities. They may work long, irregular hours including nights and weekends.

Salary:

Average Annual Salary: $28,900
Salary Range: $24,200-$44,300

Professional Organizations:

American Counseling Association
http://www.counseling.org/

American Mental Health Counselors Assoc.
http://www.amhca.org/

High School Preparation:

Students interested in a career in mental health counseling should take high school courses in biology, geometry, algebra, English, health occupations/medical professions education, sociology, literature, psychology, computer skills, social studies, and speech.

College Requirements:

Individuals interested in mental health counseling must first obtain a bachelor's degree in counseling, psychology, education, sociology, or social work. Most employment opportunities

for mental health counselors require a master's degree or a doctoral degree. Voluntary certification is available through The National Board of Certified Counselors. An internship, a taped sample of clinical work, or other professional experience, as well as passing a written examination is required to receive this certification.

Career Outlook:

Employment opportunities for mental health counselors are expected to grow faster than the average for all other occupations through the year 2012. The demand for mental health professionals will continue to increase due to the increasing availability of federal funds to construct and improve statewide mental health networks. Mental health counselors are also becoming increasingly involved in crisis management and preventative counseling as it relates to young people. Another boom in employment will result from employers who are increasingly offering employee assistance programs that provide mental health and substance abuse programs. Employment will also increase as many counselors retire or leave the profession for other reasons.

Texas Programs:

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Houston Community College
http://www.hccs.edu/hcc/System%20Home/Departments/Academics/Degree%20Plans/pdf/1011/HealthMedicalSci1011Final.pdf

Lone Star College System
http://lonestar.edu/programs-classes.htm

McLennan Community College
http://www.mclennan.edu/students/admissions/aprog.html

Saint Edward's University
http://www.stedwards.edu/academics/bachelors/programs

San Antonio College
http://www.alamo.edu/sac/alldhlth/default.htm

San Jacinto Community College
http://www.sanjac.edu/degrees-certificates

South Plains College
http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

Southern Methodist University
http://www.smu.edu/Admission/Academics/Majors.aspx

St. Marys University
http://www.stmarytx.edu/academics/index.php?site=undergraduate

Tarrant County College
http://www.tccd.edu/Courses_and_Programs/Program_Offerings.html

Wharton County Junior College
http://www.wcjc.edu/admin_offices_n/Registrars_Office/Registration/1_Admission.asp

NURSING
(A.D.N./Diploma/B.S.N.)

Of today's health professions, Nursing is the single largest with over 2 million jobs. Texas, the nation and the world are facing an unprecedented nursing shortage due to many factors including an aging workforce, declining enrollment in nursing schools and job stress. Officials' estimate that Texas needs to graduate and place an extra 5,000 nurses each year to meet the state's needs. As a result, new graduates and returning nurses have more practice opportunities and the option to enter specialty or advanced practice fields with little experience in those fields.

Texas registered nurses operate under the Nursing Practice Act administered by the Texas Board of Nurse Examiners. Student nurses must complete a program at an accredited college or university and pass the National licensing exam, the NCLEX. Once licensed, nurses usually complete additional training or work with a mentor nurse at the worksite and are required to attend continuing education each year. Only those completing all of the above requirements are allowed to use the title registered nurse (RN). Registered nurses work to promote health, prevent disease, and help families cope with illness. When providing direct care, they observe, assess, and record symptoms, reactions, and progress; assist physicians during treatments and examination; administer medications; and assist patients through convalescence and rehabilitation.

A registered nurse may earn that credential in many ways. He or she may complete a two-year associate degree program at a community/junior college (ADN), a three-year diploma program (there are only two diploma programs still existing in Texas), or a four-year Bachelor of Science in Nursing at a college or university (BSN). Students with other bachelor's degrees may complete any above option or an alternate entry program to gain the R.N. credentials. Students who opt to complete the associate degree may complete a transition program, moving them from ADN. to BSN credentials. Similarly, students who complete training as a licensed vocational nurse (LVN) may enter a transition program taking them from LVN to RN/ADN.

Community or junior college nursing programs (ADN) usually require between 4 and 6 prerequisite classes and determine acceptance based on performance in these courses. BSN programs require about 20 courses, including basic college courses with additional science, humanities, psychology, and nutrition. Acceptance is based on academic performance, recommendations, and occasionally personality testing or interviews.

There are many entry and exit points in nursing. Jobs in the nursing arena require from 7 weeks to over 7 years of training. As with many health care fields the longer the training, the higher the salary. On the low end, a certified Nurse's Aid earns slightly above minimum wage. At the other end of the spectrum, a chief nursing administrator or certified registered nurse anesthetist may earn over $90,000 annually. The majority of nurses work in hospital settings, however growing numbers work in home health, long-term care, industry and business, legal, and consulting roles.

Average Salary: $42,250 to $53,500

Baccalaureate Degree Programs (BSN):

Abilene Christian University
http://www.acu.edu/academics/undergrad.html

Angelo State University
http://www.angelo.edu/dept/admissions/degreeprograms.html

Baylor University
http://www.baylor.edu/admissions/index.php?id=54974

East Texas Baptist University
http://www.etbu.edu/Academics/Majors/

Hardin-Simmons University
http://www.hsutx.edu/academics/undergraduate/

Houston Baptist University
http://www.hbu.edu/hbu/Undergraduate_Majors_and_Programs.asp?SnID=918896669

Lamar University

LeTourneau University
http://www.letu.edu/opencms/opencms/_Admissions/majors-list/

Lubbock Christian University
http://www.lcu.edu/majors-programs.html

McMurry University
http://www.mcm.edu/newsite/web/academics/ncs/index.htm

Midwestern State University
http://www.mwsu.edu/profiles/viewcolleges.asp

Our Lady of the Lake University
http://www.ollusa.edu/s/1190/ollu.aspx?sid=1190&gid=1&pgid=866

Prairie View A&M University
http://www.pvamu.edu/pages/6879.asp

Schreiner University
http://www.schreiner.edu/academics/majors.html

Southwestern Adventist University
http://www.swau.edu/academics

Stephen F. Austin State University
http://www.sfasu.edu/44.asp

Tarleton State University
http://www.tarleton.edu/catalog/undergraduate-academic-programs/undergrad-degrees.html

Texas A&M University - Commerce
http://web.tamu-commerce.edu/academics/azPrograms.aspx

Texas A&M – Corpus Christi
http://www.tamucc.edu/academics/index.html

Texas A&M International University
http://www.tamiu.edu/current.shtml

Texas Christian University
http://www.tcu.edu/academics.asp

Texas State University – San Marcos
http://www.txstate.edu/about/degree_list.html

Texas Tech University
http://www.ttu.edu/academics/programs_degree.php

Texas Wesleyan University
http://web3.txwes.edu/aboutus/academics.htm

Texas Woman's University
http://www.twu.edu/admissions/programs-majors.asp

University of Mary Hardin-Baylor
http://undergrad.umhb.edu/

University of Texas at Arlington
http://www.uta.edu/admissions/majors.php#az

University of Texas of Austin
http://www.utexas.edu/student/admissions/ugdegrees.html

University of Texas at Brownsville
http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx?Paged=TRUE&p_Title0=Music%20%2d%20 Instrumental&p_ID=69&View= %7b55FF3EA3%2d5782% 2d4D77%2d8285%2d1CF2C53CD644%7d&PageFirstRow=101

University of Texas of El Paso
http://www.utep.edu/academicprograms/

University of Texas - Pan American
http://www.utpa.edu/academics/degree-programs/

University of Texas of the Permian Basin
http://www.utpb.edu/future-students/undergraduate-programs/

University of Texas of Tyler
http://www.uttyler.edu/academics/

University of the Incarnate Word
http://www.uiw.edu/home/academics/index.html

Wayland Baptist University
http://www.wbu.edu/academics/

West Texas A&M University
http://www.wtamu.edu/student-support/list-degrees-college-dept.aspx

University of Texas Medical Branch
http://www.utmb.edu/

Diploma Programs (2 year):

Baptist Health System
http://www.bshp.edu/prospective-students/careers/registeredNurse.aspx

Covenant School of Nursing
http://covenanthealth.org/view/Facilities/cson/default

Associate Degree Programs (ADN) :

Alamo Community Colleges
http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Alvin Community College
http://www.alvincollege.edu/degrees/

Amarillo College
http://catalog.actx.edu/content.php?catoid=10&navoid=349

Angelina College
http://www.angelina.edu/interest/index.html

Angelo State University
http://www.angelo.edu/dept/admissions/degreeprograms.html

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Blinn College
http://www.blinn.edu/academics/degrees.html

Brazosport College
http://www.brazosport.edu/sites/FutureStudents/Programs/default.aspx

Brookhaven College
http://www.brookhavencollege.edu/instruction/h-h-services/#hp

Central Texas College
http://www.ctcd.edu/nursing/index.htm

Cisco College
http://www.cisco.edu/s/926/start.aspx

Coastal Bend College
http://vct.coastalbend.edu/content/index.cfm/fa/viewpage/category_id/702.htm

College of the Mainland
http://www.com.edu/degrees-programs/degrees-certifications.php

Collin County Community College
http://www.collin.edu/academics/programs/index.html

Dallas County Community College
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

El Centro College
http://www.elcentrocollege.edu/Program/

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Galveston College
http://www.gc.edu/gc/Health_Sciences.asp?SnID=807583250

Grayson Community College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Hill College
http://www.hillcollege.edu/info/departments/

Houston Community College System
http://www.hccs.edu/hcc/System%20Home/Departments/Academics/Degree%20Plans/pdf/1011/HealthMedicalSci1011Final.pdf

Howard College
http://www.howardcollege.edu/

Kilgore College
http://www.kilgore.edu/programs.asp

Kingwood College
http://www.lonestar.edu/dental-hygiene-dept.htm

Lamar State College – Orange
http://www.lsco.edu/alliedhealth/alliedhealth.asp

Lamar State College – Port Arthur
http://www.lamarpa.edu/?url=/dept/ah/index.html

Lamar University
http://www.lamar.edu/academics

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lee College
http://www.lee.edu/degreeCerts.asp

McLennan Community College
http://www.mclennan.edu/departments/hsp/adn/

Midland College
http://www.midland.edu/students/academics/allprograms.php

Navarro College
http://www.navarrocollege.edu/areas-of-study-overview.php

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=73&pid=3

Odessa College
http://www.odessa.edu/dept/

Panola College
http://www.panola.edu/healthscience/

San Antonio College
http://www.alamo.edu/sac/alldhlth/default.htm

San Jacinto College Central
http://www.sanjac.edu/degrees-certificates

South Plains College
http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Southwest Texas Junior College
http://www.swtjc.net/programs/workforce-training/nurse-aide-training.aspx

Tarrant County College
http://www.tccd.edu/Courses_and_Programs/Program_Offerings.html

Temple College
http://www.templejc.edu/dept/dept.htm

Texarkana College
https://www.texarkanacollege.edu/pages/156.asp

Texas State Technical College
http://harlingen.tstc.edu/Careers/HealthAndSciences.aspx

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Tyler Junior College
http://www.tjc.edu/nhp/

University of Texas at Brownsville - TSC
http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx?Paged=TRUE&p_Title0=Music%20%2d%20 Instrumental&p_ID=69&View= %7b55FF3EA3%2d5782% 2d4D77%2d8285%2d1CF2C53CD644%7d&PageFirstRow=101

Vernon College
http://www.vernoncollege.edu/uploadedFiles/VC/INSTRUCTIONAL_SERVICES/Course_Schedule_Advising/VC%20Programs-Areas%20of%20Study%2010-11.pdf

Victoria College
http://www.victoriacollege.edu/healthcareers

Weatherford College
http://www.wc.edu/programs-of-study/health-professions

West Texas A&M University
http://www.wtamu.edu/student-support/list-degrees-college-dept.aspx

Wharton County Junior College
http://www.wcjc.edu/admin_offices_n/Registrars_Office/Registration/1_Admission.asp

OCCUPATIONAL THERAPIST

Occupational therapy (OT) is a health care profession that uses purposeful activity to help people improve their ability to perform tasks in their daily living and working environments. The occupational therapist works with individuals who have conditions that are mentally, physically, developmentally, or emotionally disabling. They work in a variety of settings: general, psychiatric, children's, and orthopedic hospitals, as well as clinics. They may also work in rehabilitation facilities, schools, geriatric centers, and home care programs. Occupational therapists may work in communities as consultants and many have opened private practices. In addition to being clinicians, occupational therapists may also have careers as administrators, educators, or researchers.

In Texas, there are presently three occupational therapy programs that award the B.S. degree in Occupational therapy, three programs offered at seven locations that award the M. S. degree, and one program the Ph.D. The OT program at University of Texas Pan American is a cooperative program between UTHSCSA and UTPA. All courses for the UTPA program are taught on the UTPA campus with the B.S. degree awarded by UTHSCSA. Graduates of OT program are eligible to take the national certification examination administered by the National Board for Certification in Occupational Therapy (NBCOT) and to apply for licensure, which is required for practice in Texas and most states. After successful completion of this exam, the individual will be an Occupational Therapist, Registered (OTR).

Average Salary: $41,000 - $72,000

Educational Requirements:

Students who want to become occupational therapists should have a high school diploma or equivalent. All states require either a bachelor's or masters master's degree that includes clinical experience and successful completion of a national examination to become a certified occupational therapist.

Occupational Therapy Programs in Texas:

Amarillo College
http://catalog.actx.edu/content.php?catoid=10&navoid=349

Angelina College
http://www.angelina.edu/interest/index.html

Angelo State University
http://www.angelo.edu/dept/admissions/degreeprograms.html

Baylor University
http://www.baylor.edu/admissions/index.php?id=54974

Kilgore College
http://www.kilgore.edu/programs.asp

McMurry University
http://www.mcm.edu/newsite/web/academics/ncs/index.htm
http://www.phssn.edu/

Our Lady of the Lake University
http://www.ollusa.edu/s/1190/ollu.aspx?sid=1190&gid=1&pgid=866

Rice University
http://www.rice.edu/catalog/2010_2011/departments.html

Saint Edward's University
http://www.stedwards.edu/academics/bachelors/programs

Saint Philip's College
http://www.alamo.edu/spc/acad/ahd/default.aspx

Sam Houston State University
http://www.shsu.edu/catalog/degrees.html

Saint Mary's University
http://www.stmarytx.edu/academics/index.php?site=undergraduate

South Plains College
http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

Stephen F. Austin State University
http://www.sfasu.edu/44.asp

Texas A&M University
http://admissions.tamu.edu/freshmen/whyaggieland/UniquePrograms/colleges/

Texas A&M University - Corpus Christi
http://www.tamucc.edu/academics/index.html

Texas A&M University - Kingsville
http://www.tamuk.edu/academics/index.html

Texas Lutheran University
http://www.tlu.edu/academics

Texas Tech University
http://www.ttuhsc.edu/sah/mot/

Texas Tech University - Amarillo
http://www.ttuhsc.edu/sah/mot/

Texas Tech University Health Science Center
http://www.ttuhsc.edu/sah/mot/

Texas Wesleyan University
http://web3.txwes.edu/aboutus/academics.htm

Texas Woman's University - Main Campus
http://www.twu.edu/occupational-therapy/

Texas Woman's University - Dallas Center
http://www.twu.edu/occupational-therapy/

Texas Woman's University - Houston Center
http://www.twu.edu/occupational-therapy/

The University of Texas Pan American
http://portal.utpa.edu/utpa_main/daa_home/hshs_home/ot_home/

University of Mary Hardin-Baylor
http://undergrad.umhb.edu/

University of North Texas
http://www.unt.edu/pais/insert/undergradList.htm

University of Texas Medical Branch – Galveston
http://sahs.utmb.edu/ot/default.asp

University of Texas - San Antonio
http://www.uthscsa.edu/shp/ot/

University of Texas - El Paso
http://chs.utep.edu/ot/

Wayland Baptist University
http://www.wbu.edu/academics/

West Texas A&M University
http://www.wtamu.edu/student-support/list-degrees-college-dept.aspx

OCCUPATIONAL THERAPY AID

Occupational Therapy Aides help patients who are mentally, emotionally, or physically disabled adjust to handicaps and regain abilities to perform daily living and self-care skills. They work with physicians, counselors, and physical therapists and under the supervision of an occupational therapist. They use therapy programs designed by occupational therapists and work closely with patients to observe them, help them, and monitor their progress. They frequently utilize special equipment to aid patients and help with their therapy. They also teach patients how to adjust to work and home life after becoming disabled by injury or illness. Most occupational therapy aides are employed at hospitals, and many work at nursing homes. Some work at schools for the handicapped, rehabilitation centers, or at adult daycare centers.

Average Salary: $26,500 - $37,500

Educational Requirements:

Individuals interested in becoming an Occupational Therapy Aid should have a high school diploma or an equivalent. One-year programs are available at vocational and technical schools. A diploma is awarded upon completion of program. Two-year programs are also available in Community Colleges that award graduates with an associate's degree. Graduates of both types of programs take a certification exam after graduation.

Associated Affiliations:

The American Occupational Therapy Association, Inc.
http://www.aota.org/

Schools:

Amarillo College
http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

Houston Community College
http://www.hccs.edu/hcc/System%20Home/Departments/Academics/ Degree%20Plans/ pdf/ 1011/HealthMedicalSci1011Final.pdf

Kingwood College
http://www.lonestar.edu/dental-hygiene-dept.htm

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lone Star College
http://lonestar.edu/programs-classes.htm

Navarro College
http://www.navarrocollege.edu/areas-of-study-overview.php

Panola College
http://www.panola.edu/healthscience/

Saint Philip's College
http://www.alamo.edu/spc/acad/ahd/default.aspx

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Tomball College
http://www.lonestar.edu/programs-classes.htm

OPHTHALMIC TECHNOLOGIST

Ophthalmic Technologists are specialists in eye health care that assist the Ophthalmologist in caring the patient. They are trained to collect medical histories, administer eye medications, and perform tests that help to ensure the accurate diagnosis and treatment of a diseased eye. Ophthalmic technologists use sophisticated equipment, such as ultrasound and ophthalmic photographs, to gather information about a patient's condition during eye examinations. They may also be called upon to assist with eye surgeries, using intricate technical instruments and equipment. They are usually in charge of making sure that the patient understands his or her diagnosis and the treatment that is prescribed.

Career specialties in this field include ophthalmic photography, ophthalmic ultrasonography, contact lenses, ophthalmic surgical technology, electrophysiology, and low-vision optics. Ophthalmic technologists usually supervise and instruct other ophthalmic personnel, such as ophthalmic assistants and technicians. Individuals interested in this eye health care specialty should have excellent communication skills, be able to handle hectic schedules, be highly organized, and be able to rely on their own judgment.

Work Environment:

Ophthalmic technologists are generally employed by ophthalmologists in private practices, clinics, or hospitals. The typical workweek is 40 hours long and may include evenings or weekend depending on the patients' needs.

Salary:

Average Annual Salary: $34,400
Salary Range: $28,800-$42,600

Professional Organizations:

Association of Technical Personnel in Ophthalmology
http://www.atpo.org/ATPO/Home/ATPO/Default.aspx

Joint Commission on Allied Health Personnel in Ophthalmology
http://www.jcahpo.org/

High School Preparation:

High school students interested in ophthalmic technology should take courses in biology, chemistry, physics, health occupations/medical professions education, computer skills, algebra, foreign language, English, literature, history, and social studies.

College Requirements:

Individuals interested in becoming an ophthalmic technologist must have a high school diploma or equivalent. Students should complete two years of college (60 credit hours) with an emphasis on science and then apply to a two-year technologist training program. Upon

graduation from an accredited program, students may become certified by taking an examination given by the Joint Commission on Allied Health Personnel in Ophthalmology.

Career Outlook:

Employment opportunities for ophthalmic technologists should be very good over the next decade. The demand will continue to increase because of the growing elderly population in this country. As the baby boom generation grows older, more vision care specialists will be needed to keep up with demand. Employment opportunities will also become available as people within the profession retire or leave the workplace for other reasons.

Schools:

San Jacinto College
http://www.sanjac.edu/areas-study#eye-care-technology

Tyler Junior College
http://www.tjc.edu/vision/

OPTICIAN

Opticians order and design eyeglasses and contact lenses according to the prescriptions that Optometrists and Ophthalmologists have provided. They start by analyzing and interpreting the written optical prescription to determine the correct lens specifications. They do not examine patients, however, but do help them select the style and color of eyeglass fames and lenses by advising them of the size and shape best suited to both their facial features and their optical prescription. Although they are trained to operate machinery that grinds and polishes eyeglass lenses, most opticians have an ophthalmic laboratory technician that performs this portion of the work. Opticians may be trained to verify the power and surface quality of the finished lenses by use sophisticated optical equipment. Another important aspect of their job is to make sure that the finished eyeglasses fit the customer. They make adjustments by heating and shaping plastic frames, or by bending metal frames using pliers. Opticians might be called upon to perform follow-up services such as fixing broken frames, replacing temple screws, or refitting a pair of glasses. They also advise customers on the special care that is required to maintain the condition of eyeglasses and contact lenses. Individuals interested in this eye health care specialty should have excellent communication skills, be highly organized, and have good business sense.

Work Environment:

Opticians may operate their own business, work for optometrists or ophthalmologists, or work for owners of retail optical outlets. The typical workweek is 40 hours long and may include evenings or weekend depending on the patients' needs.

Salary:

Average Annual Salary: $28,400
Salary Range: $24,800 - $39,200

Professional Organizations:

American Board of Opticianry
www.abo.org

Commission on Opticianry Accreditation
www.coaccreditation.com

Opticians Association of America
www.oaa.org

High School Preparation:

High school students interested in becoming an optician should take courses in biology, physics, health occupations/medical professions education, computer skills, algebra, mechanical drawing, trigonometry, English, literature, geometry, and social studies.

College Requirements:

Individuals interested in this optical specialty should have a high school diploma or equivalent. Programs in optical technology are usually offered at community colleges and technical schools. Some employers require completion of an optician program, while others may provide on-the-job training to individuals with no formal background in opticianry. Certification is available through the American Board of Opticianry and the National Contact Lens Examiners.

Career Outlook:

Employment opportunities for opticians should be very good over the next decade. There is an expected 10%-20% increase in the number of new job openings through the year 2012. The demand will continue to increase because of the growing middle-age and elderly population in this country. As the baby boom generation grows older, more vision care specialists will be needed to keep up with demand created by this surge. Employment opportunities will also become available as people within the profession retire or leave the workplace for other reasons.

Schools of Optometry:

University of Houston College of Optometry
http://www.opt.uh.edu/

University of the Incarnate Word Rosenberg School of Optometry
http://optometry.uiw.edu/

Schools of Optical Technology:

San Jacinto College
http://www.sanjac.edu/areas-study#eye-care-technology

Tyler Junior College
http://www.tjc.edu/vision/

OPTOMETRIST

Doctors of Optometry are independent primary health care providers who specialize in the examination, diagnosis, treatment, and management of diseases and disorders of the visual system, the eye, and associated structures as well as the diagnosis of related systemic conditions. Optometrists are primary care providers and must recognize ocular and visual signs of disease, understand the wide range of health problems affecting a patient, and refer patients to appropriate specialists. Some optometrist work in a general practice, while others work in specialties: contact lenses, geriatrics, low vision services (for visually impaired patients), pediatrics, sports vision and vision therapy. Other optometrists may choose to enter optometric education and/or perform scientific research.
Doctors of Optometry must successfully complete a four-year accredited degree program at one of the 17 schools or colleges of optometry in the United States. Most students accepted by a school or colleges of optometry have completed their undergraduate degree. The requirements for admission vary, but students wishing to study optometry should take at least a year of biology or zoology, chemistry, general physics and college mathematics. The science courses pre-professional level courses designed for science majors and include laboratory experience. Each school has its own additional educational requirements.

All optometry schools and colleges also require applicants to take the Optometry Admission Test (OAT), a standardized examination designed to measure general academic ability and comprehension of scientific information. The OAT includes Quantitative reasoning, Reading Comprehension, Physics, Biology, General Chemistry, and Organic Chemistry. The OAT is administered twice a year, in February and October. Students may request a free OAT information booklet and test application by contacting the Optometry Admission Testing Program, 211 East Chicago Avenue, Suite 1846, Chicago, IL 60611-2678, (312) 440-2693
Optometry students may be evaluated on the basis of GPA, performance on OAT, extra-curricular and community service activities, personal interview, professional potential, etc. Early application is desirable and deadlines range from October to April for the various schools and colleges of optometry. Each institution has its own guidelines; therefore, students should contact the schools or colleges of their choice to obtain a catalog and specific application procedures. Contact information can be obtained at the Association of Schools and Colleges of Optometry (ASCO) website: www.opted.org. Optometrists must be state licensed. All states require graduation from an accredited professional optometric degree program as a prerequisite for licensure. Most states accept the results of the National Board of Examiners in Optometry.

Financial aid, primarily in the form of government-subsidized low-interest loans, is available to students attending schools and colleges of optometry. Others loans, grants, and work-study aid are available, and vary from one institution to another. For details, students should contact the financial aid officer at the school (s) or college (s) of their choice.

Doctors of Optometry recognize the continued professional education is a life-long responsibility to remain competent for the full scope of optometric services. All fifty states and the District of Columbia require Doctors of Optometry to take continuing education courses for license renewal. Such educational programs are readily available throughout the county.

Schools:

Illinois College of Optometry: http://www.ico.edu/admissions/

Indiana University - School of Optometry: http://www.opt.indiana.edu/

Michigan College of Optometry at Ferris State University
http://www.ferris.edu/htmls/colleges/michopt/education-programs/Education-Programs.htm

Northeastern State University College of Optometry: http://optometry.nsuok.edu/

Nova Southeastern Univ. College of Optometry: http://optometry.nova.edu/

Pacific University – College of Optometry: http://www.pacificu.edu/optometry/

Salus University: http://www.salus.edu/optometry/

The New England College of Optometry: http://www.neco.edu/

The Ohio State University College of Optometry
http://optometry.osu.edu/futurestudents/

Southern California College of Optometry: http://www.scco.edu/

Southern College of Optometry: http://www.sco.edu/Pages/default.aspx

State University of New York State College of Optometry: http://www.sunyopt.edu/

University of Alabama at Birmingham School of Optometry
http://main.uab.edu/Sites/optometry/

University of California Berkeley School of Optometry
http://optometry.berkeley.edu/

University of Houston College of Optometry: http://ce.opt.uh.edu/

University of the Incarnate Word Rosenberg School of Optometry
http://optometry.uiw.edu/

University of Missouri St. Louis School of Optometry: http://www.umsl.edu/~optomety/

ORTHOPEDIC TECHNOLOGIST

Orthopedic Technologists are allied health professionals who apply and adjust casts, splints, braces, and other orthopedic appliances. They also set up and adjust traction configurations, assist with the care of acutely injured patients and assist the physician in the reduction and/or manipulation of orthopedic injuries. Orthopedic Techs assist Orthopedic Surgeons in the treatment of patients in a variety of health care environments. Many Orthopedic Technologists work in hospitals, clinics and private practice offices. In some clinical practices, Ortho Techs assist the surgeon during surgery by manipulation of extremities and retraction of soft tissues.

Orthopedic Technologists are invaluable members of the ortho team that provide numerous different services depending on the healthcare setting.

Average Salary: $20,000 - $37,500

Educational Requirements:

Persons interested in becoming Orthopedic Technologists must have a high school diploma or an equivalency. Some schools require that an entrance exam be taken to test your knowledge of Anatomy and Physiology, while others require that these courses be taken at a college level prior to entering the program.

Associated Affiliations:

National Association of Orthopedic Technologists
http://www.naot.org/sections/schools.php

Schools:

Alvin Community College
http://www.alvincollege.edu/degrees/

Blue Ash Education Center
http://www.orthotechtraining.com/

Central Georgia Technical College
http://www.cgtcollege.org/catalog/section6/he/OT13.htm

East Stroudsburg University
http://www.naot.org/sections/pdfs/ConcordSchoolBrochure.pdf

Grossmont College
http://www.grossmont.edu/healthprofessions/orthopaedic/default.asp

Medical Careers Institute at Coordinatd Health
http://www.themedicalcareersinstitute.com/diploma.htm

NHTI Concord's Community College
http://www.nhti.edu/academics/academicprograms/certorthopaedic.html

Southern Crescent Technical College
http://www.sctech.edu/academics/program.php?id=21

PERFUSIONIST

A perfusionist operates extra-corporeal circulation and auto-transfusion equipment during any medical situation where it is necessary to support or temporarily replace the patient's circulatory or respiratory function. The perfusionsit is knowledgeable concerning the variety of equipment available to perform extra-corporeal circulation functions and is responsible, in consultation with the physician, for selecting the appropriate equipment and techniques to be used.

Perfusionists conduct extra-corporeal circulation and ensure the safe management of physiologic functions by monitoring the necessary variables. Perfusion procedures involve specialized instrumentation and advanced life-support techniques and may include a variety of related functions. The perfusionist provides consultation to the physician in the selection of the appropriate equipment and techniques to be used during the extra-corporeal circulation.

During cardiopulmonary bypass, the perfusionist may administer blood products, anesthetic agents, or drugs through the extra-corporeal circuit on prescription and/or appropriate protocol. The perfusionist is responsible for the monitoring of blood gases and the adequate anticoagulation of the patient, induction of hypothermia, hemodilution, and other duties, when prescribed. Perfusionists may be administratively responsible for purchasing supplies and equipment, as well as for personnel and departmental management. Final medical responsibility for extra-corporeal perfusion rests with the surgeon in charge.

Perfusionsits may be employed in hospitals, by surgeons, and as employees of a group practice. They typically work during the week and are frequently on call for emergency procedures on weekends and nights. They also may work in an on-call system, depending on the number of perfusionists employed by the institution.

Salary Range: $50,000 – $90,000

Educational Programs:

Length:

Programs are generally 1 to 4 years in length, depending on the program design, objectives, prerequisites, and student qualifications. Certificate programs require that applicants have a bachelor's degree.

Prerequisites:

Prerequisites vary depending on the length and design of the program. Most programs require college-level science and mathematics. A background in medical technology, respiratory therapy, or nursing is suggested for some programs.

Curriculum:

Curricula of accredited programs include courses covering heart-lung bypass for adult, pediatric, and infant patients undergoing heart surgery; long-term supportive extracorporeal circulation; monitoring of the patient undergoing extra-corporeal circulation; auto-transfusion; and special applications of the technology. Curricula include clinical experience that

incorporates and requires performance of an adequate number and variety of circulation procedures.

Associated Affiliations:

American Society of Extra-Corporeal Technology
http://www.amsect.org/

American Academy of Cardiovascular Perfusion
http://www.theaacp.com/

Perfusionists Programs:

Barry University Cardiovascular Perfusion Program
http://www.barry.edu/chs/bsprograms

Cleveland Clinic Foundation Hospital Cardiovascular Perfusion
http://www.musc.edu/chp/cp

Cooper University Hospital School of Cardiovascular Perfusion
http://blogs.cooperhealth.org/news/2010/05/school-of-cardiovascular-perfusion-2010-graduation/

Medical University of South Carolina
http://www.musc.edu/chp/cp

Milwaukee School of Engineering
http://www.msoe.edu/academics/academic_departments/eecs/msp/

Midwestern University Cardiovascular Science
http://www.midwestern.edu/programs_and_admission/cardiovascular_science_as_a_career.html

Quinnipiac University Cardiovascular Perfusion Program
http://www.quinnipiac.edu/x810.xml

Rush University Perfusion Technology Program
http://www.rushu.rush.edu/servlet/Satellite?c=RushUnivLevel2Page&cid=1192572150460&pagename=Rush%2FRushUnivLevel2Page%2FLevel_2_College_GME_CME_Page

SUNY Upstate Medical University
http://www.upstate.edu/chp/programs/cp/

Texas Heart Institute School of Perfusion Technology

http://www.texasheart.org/education/train/perfusion.cfm

University of Arizona Perfusion Science
http://www.perfusion.arizona.edu/

University of Iowa Healthcare Perfusionist Technology Program
http://www.healthcare.uiowa.edu/Perfusion/

University of Nebraska Medical Center Clinical Perfusion Education Program
http://www.unmc.edu/alliedhealth/cpe.htm

PHARMACISTS

Pharmacists are a vital part of a complete health care system. The number of people requiring health care services has steadily increased, and this trend will likely continue due to:

- Increases in average life span and the increased incidence of chronic diseases;
- The increased complexity, number, and sophistication of medications and related products and devices;
- Increased emphasis on primary and preventive health services, home health care, and long term care, and:
- Concerns about improving patients' access to health care, controlling its cost, and assuring its quality.

A quality education is essential to a successful pharmacy career. There are eighty-two (82) colleges within the U.S. with eight-one (81) colleges offering the Doctor of Pharmacy (PharmD) degree after four years within a professional program. Four colleges of pharmacy are located within Texas: Texas Southern University, Texas Tech at Amarillo, University of Houston, University of Texas at Austin and Texas A&M Health Science Center Rangel College of Pharmacy.

The Pre-pharmacy curriculum requirements for admission into pharmacy colleges can be met in a two or four-year College or University. It will take two to three years for most students to complete these requirements. While a student may major in liberal arts or other non-science majors, the student should be advised that a strong background in science and mathematics is essential. A prior degree is not required, though many students enter the program with prior degrees. The student showing interest in the field of pharmacy should be a dedicated learner, detailed oriented, organized, possess good judgment and problem solving skills and have excellent oral and written communication skills. There must be a motivation to explore and learn balanced with the ability to be empathetic and genuine.

The Pharmacy College Admission Test (PCAT) is required by all Texas pharmacy schools. The year before applying to a pharmacy college is the time to begin preparing for the exam. This standardized exam is offered three times each year (January, April and October). A student may take the exam as many times as desired with the understanding that a solid grade of at least 50% in each of the sections on one sitting is desirable. All Texas colleges admit students once in the fall semester of each year. The selection process involves many factors including academic background, PCAT scores, recommendations, a personal interview, writing and verbal proficiency, community service endeavors, and extracurricular activities. Pharmacy experience is encouraged to assist the student in a better understanding of the career path. The competitive student has an average GPA of 3.2 or above.

After a student has completed the requirements for a professional degree, he/she must pass a state licensing examination in order to engage in professional practice. Pharmacy is the third largest health profession (after nursing and medicine) with approximately 180,000 clinicians practicing in community pharmacies, hospitals, and a variety of other health care settings.

Pharmaceutical care is the philosophy in which the pharmacists bases the care for their patients and shares responsibility with other members of the health care team to better achieve more favorable drug therapy outcomes in their patients. These outcomes include: cure of a disease; elimination or reduction of symptoms; arresting or slowing a disease process; prevention of disease; and desired alterations in physiological processes, all with minimum risk to patients.

Pharmacists also play an increasing role in the "wellness" movement, especially through counseling about preventive medicine. The areas of natural (herbal) products therapy and the effective use of over-the-counter vitamins and minerals has blossomed in response to the more informed and educated clientele who desire more responsibility for their health. Pharmacists serve patients and the community by providing information and recommendations that can complement medications and associated services.

Likewise, advances in the use of computers in pharmacy practice now allow pharmacists to spend more time educating patients, maintaining, and monitoring patient records. As a result, patients have come to depend on the pharmacist as a health care and information resource of the highest caliber. Pharmacists are professionals, uniquely prepared, available, and committed to public service and quality healthcare.

Health care setting is diverse and abundant. Most states continue to experience a shortage of pharmacists. Sources identify 112,000 pharmacists in community pharmacy (66,000 in chain pharmacies; 46,000 in independent pharmacies), 40,000 in hospitals, and 21,000 in consulting, government, academic, industry and other settings. The prospects for immediate employment and long term career growth have never been better. The national average base annual income is reported to be around $74,000. Regionally, pharmacists in the West and South reported higher incomes than those in the Northeast and Midwest.

Average Salaries: $72,000 - $103,000

The American Pharmaceutical Association (APA), the national professional society of pharmacists is a leader in providing professional information and education for pharmacists and an advocate for improved health of the American public through the provision of comprehensive pharmaceutical care. The more than 50,000 members of APA include practicing pharmacists, pharmaceutical scientist, pharmacy students, pharmacy technicians, and others interested in advancing the profession.

Most Often Required Prerequisite Course:

Texas Colleges of Pharmacy	TSU	TT	UH	UT	A & M Kingsville
Application Deadline	April 15	March 1	March 1	March 1	October 2004
PCAT	Required	Required	Required	Required	Possibly
Course Work					
Biology	10	8	8	6	12 a
Vertebrate/Comp. Anatomy	4	0	0 b	0	
Microbiology with lab	0	4	4	4	4

General Chemistry with lab	8	8	8	8	8
Organic Chemistry with lab	8	8	8-10	8	8
Freshman English	6	6	6	3	3
English Literature	3	3	0	3	3
College Algebra	3	0	0	0	0
Calculus	3	3	3	3	3
Statistics	0	3	3	3	3
Physics	4	4	3 (no lab)	4	4
Economics	0	3	0	0	0
US History	6	0	6	6	6
US / Government	6	0	6	6	6
Speech	3	3	3	0	3
Fine Arts/Humanities Electives	3 c	7 d	6 c	3	3-6
Social/Behavioral Science	3 c	8 d	6 c	3	6
Physical Education	0	0	0	0	4
General Elective	3 (computer science)	0	0	0	3 (into computers)
Genetics	0	0	0	3	0
Pharmacy Intro Courses	4				

a. BIOL 1201; BIOL 1308/1108 OR BIOL 1311/1111 OR BIOL 1313/1113 (2 of these three courses) and an elective
b. Anatomy and Physiology is strongly recommended but not required
c. Selected list of course available from college
d. A combined total of 15 hours social sciences and humanities are required

* Due to college placement exams, the pre-professional student may have additional prerequisites to complete before entering the listed courses. Students are advised to contact the health professions advisor or admissions director of the schools for changes or additional requirements. As admission is highly competitive, students are advised to apply to more than one college. On-line application process is available for Texas Tech University, the University of Houston and the University of Texas.

Associated Affiliations:

American Association of Colleges of Pharmacy
http://www.aacp.org/Pages/Default.aspx

American Pharmacists Association
http://www.pharmacist.com/

Schools:

Texas A&M University – Kingsville Irma Lerma Rangel College of Pharmacy
http://pharmacy.tamhsc.edu/

Texas Southern University College of Pharmacy & Health Sciences
http://www.tsu.edu/academics/colleges__schools/College_of_Pharmacy_and_Health_Sciences/

Texas Tech University Health Science Center School of Pharmacy
http://www.ttuhsc.edu/sop/

University of the Incarnate Word School of Pharmacy
http://www.uiw.edu/pharmacy/

University of Houston College of Pharmacy
http://www.uh.edu/pharmacy/

The University of Texas College of Pharmacy
http://www.utexas.edu/pharmacy/

PHARMACY TECHNICIAN

The role of the pharmacy technician is to provide technical and clerical support to pharmacists in hospitals or in retail pharmacies. The pharmacy tech will measure, mix, package, label and deliver drugs. Additionally, they maintain computerized lists of medications taken by patients and ensure that the right drugs have been prescribed. The pharmacy technician will also look after home health-care products such as canes, vision aids and hearing aids. Depending on their position and work setting, Pharmacy Technicians duties may include: manage billing, answer telephones, directing customers to requested items, referring patients to the pharmacist for medication consultation, receiving written prescriptions, cleaning and sterilizing bottles and instruments, answering questions regarding non-drug products, and operating a cash register.

Other duties of Pharmacy Technicians may include:

- Checking inventories and ordering supplies.
- Receiving and checking in supplies.
- Waiting on customers.
- Keeping pharmacy work areas clean.

Pharmacy Technicians work in pharmacies under the direction of a pharmacist. Their main responsibility is filling prescriptions according to doctors' orders for patients. Pharmacy Technicians measure out correct amounts of medication from larger containers to prescription size containers. In addition, they add drugs to intravenous solutions. A pharmacist rechecks all prescription filling work before medications are dispensed to patients or customers.

Careers:

Graduates are qualified for many positions in the medical field, finding employment in medical offices, health clinics, hospitals, labs, pharmaceutical companies, medical supply houses or insurance companies.

Pharmacy technicians work in retail pharmacies, hospitals, clinics, and some large industrial complexes.

Average Salary: $18,500 - $28,000

Educational Requirements:

Students should take math, science (especially chemistry), and typing courses in high school. A high school diploma is usually required to begin pharmacy technician training. Two-year courses leading to certificates are available at most community colleges. Six-month programs are offered at privately operated schools.

Associated Affiliations:

National Pharmacy Technician Association
http://www.pharmacytechnician.org/

Texas Schools:

Alamo Colleges
http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Alvin Community College
http://www.alvincollege.edu/degrees/

Amarillo College
http://catalog.actx.edu/content.php?catoid=10&navoid=349

Angelina College
http://www.angelina.edu/interest/index.html

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Cisco College
http://www.cisco.edu/s/926/start.aspx

Coastal Bend College
http://vct.coastalbend.edu/content/index.cfm/fa/viewpage/category_id/702.htm

College of the Mainland
http://www.com.edu/degrees-programs/degrees-certifications.php

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Galveston College
http://www.gc.edu/gc/Health_Sciences.asp?SnID=807583250

Hill College
http://www.hillcollege.edu/info/departments/

Houston Community College System
http://www.hccs.edu/hcc/System%20Home/Departments/Academics/Degree%20Plans/pdf/ 1011/HealthMedica

Kilgore College
http://www.kilgore.edu/programs.asp

Kingwood College
http://www.lonestar.edu/dental-hygiene-dept.htm

Lamar Institute of Technology
http://www.lit.edu/depts/allied/default.aspx

Lamar State College – Orange
http://www.lsco.edu/alliedhealth/alliedhealth.asp

Lone Star College
http://lonestar.edu/programs-classes.htm

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Odessa College
http://www.odessa.edu/dept/

Richland College
http://www.richlandcollege.edu/hp/

San Jacinto College
http://www.sanjac.edu/degrees-certificates

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Tomball College
http://www.lonestar.edu/programs-classes.htm

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Vernon College
http://www.vernoncollege.edu/uploadedFiles/VC/INSTRUCTIONAL_SERVICES/Course_Schedule_Advising/Areas%20of%20Study%2010-11.pdf

Victoria College
http://www.victoriacollege.edu/healthcareers

PHLEBOTOMIST

Phlebotomists draw blood from patients in a hospital or health care facility utilizing standard techniques and protocols and perform related record keeping or data collection duties. Blood drawing may be for purposes such as slide smears used to diagnose disease, blood typing, or collection of large amounts of blood for blood donations and testing purposes. Beginning Phlebotomists perform simple blood drawing techniques (such as finger punctures and venipunctures) and learn more complex techniques. Experienced Phlebotomists perform a full range of specialized and complex techniques (such as bleeding time assessment) and may supervise and train lower level staff.

Beginning Phlebotomists job duties include:

- Interviewing patients to gather information (demographics, identification, and data related to specific blood test requested) in accordance with their established procedures.
- Reviewing the specimen requisition for completeness of information.
- Performing procedures for requesting and/or canceling tests manually or using automated equipment.
- Preparing receptacles for blood specimens (such as vacutainers and blood bags) and urine collection devices in accordance with their laboratory protocol.
- Drawing blood using finger punctures and venipuncturs with aseptic techniques; labels units and sends specimens to appropriate clinical laboratories for processing.
- Receives more complex blood drawing training.
- Performing other related duties as assigned.
- May assist in the training of less experienced phlebotomists as assigned.
- They usually work under the supervision of medical technologists or laboratory managers.

Average Salary: $17,000 - $22,000

Educational Requirements:

People interested in becoming phlebotomists should have a high school diploma or an equivalent. One-year phlebotomy programs are offered at vocational/technical schools awarding diplomas and two-year phlebotomy programs are offered at community colleges awarding associate's degrees>

Associated Affiliations:

American Medical Technologists
http://www.americanmedtech.org/default.aspx

Phlebotomist Schools:

Alvin Community College
http://www.alvincollege.edu/degrees/

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Central Texas College
http://www.ctcd.edu/nursing/index.htm

Frank Phillips College
http://www.fpctx.edu/Students/DegreesCerts/DegreesCerts_03042010.htm

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Houston Community College System
http://www.hccs.edu/hcc/System%20Home/Departments/Academics/Degree%20Plans/pdf/1011/HealthMedicalSci1011Final.pdf

Kilgore College
http://www.kilgore.edu/programs.asp

Kingwood College
http://www.lonestar.edu/dental-hygiene-dept.htm

Lamson Institute
http://www.lamsoninstitute.com/programs

Lone Star College
http://lonestar.edu/programs-classes.htm

McLennan Community College
http://www.mclennan.edu/students/admissions/aprog.html

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Odessa College
http://www.odessa.edu/dept/

Richland College
http://www.richlandcollege.edu/hp/

Saint Philip's College
http://www.alamo.edu/spc/acad/ahd/default.aspx

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Tomball College
http://www.lonestar.edu/programs-classes.htm

Trinity Valley Community College
http://www.tvcc.edu/communityservices/class_workforce.aspx

Victory College
http://www.victoriacollege.edu/healthcareers

Weatherford College
http://www.wc.edu/programs-of-study/health-professions

PHYSICAL THERAPIST

The Physical Therapist is a member of the health-care team whose primary responsibility is to test, evaluate, and treat patients with acute or prolonged movement dysfunction. Treatments are planned and implemented to restore normal health and function to the body. This is accomplished through patient and family education, a planned program of exercise, and the use of a variety of physical agents such as heat, cold, light, water or electricity. The American Board of Physical Therapy Specialties certifies qualified physical therapists in seven areas: pediatrics, neurology, orthopedics, sports physical therapy, cardiopulmonary, clinical electro-physiology, and geriatrics.

Students planning on careers in physical therapy should be aware that transfer to a professional program is not automatic. Competition is keen among applicants and schools prefer those who have a proven interest in the field. Volunteer experience in the field is required and will strengthen a student's interpersonal skills as well as increase his/her understanding of career requirements. In Texas, students must receive a four-year baccalaureate degree from an accredited university and then enroll in a Master's degree program.

Physical Therapists are licensed by the state in which they practice. Texas requires that physical therapists hold at least a master's degree from an accredited physical therapy program and pass a national exam administered by the Executive Council of Physical Therapy and Occupational Therapy Examiners. There are ten accredited programs in Texas that offer the Master of Physical Therapy degree (MPT).

Hardin-Simmons University is presently in the process of transitioning from offering the MPT to offering the Doctor of Physical Therapy (DPT) as the entry-level professional degree. Texas Woman's University also offers a post-professional Ph.D. for Physical Therapists.

Average Salary: $47,000 - $78,000

Association:

American Physical Therapy Association
http://www.apta.org/

Texas Physical Therapy Association
http://www.tpta.org/

Physical Therapy Programs in Texas:

Angelo State University
http://www.angelo.edu/dept/physical_therapy/

Hardin-Simmons University
http://www.hsutx.edu/academics/graduate/holland/pt

Texas State University – San Marcos
http://www.health.txstate.edu/pt/

Texas Tech University Health Sciences Center
http://www.ttuhsc.edu/sah/scdpt/

Texas Woman's University
http://www.twu.edu/physical-therapy/

U.S. Army-Baylor University
http://www.baylor.edu/graduate/pt/splash.php

The University of Texas at El Paso
http://chs.utep.edu/pt/

The UT Health Science Center at San Antonio
http://www.uthscsa.edu/shp/pt/index.asp

UTMB at Galveston - School of Allied Health Sciences
http://shp.utmb.edu/programs/pt/

The UT Southwestern Medical Center at Dallas
http://www.utsouthwestern.edu/utsw/cda/dept28445/files/51683.html

Most Often Required Prerequisite Courses:

Courses	Average Hours
General Biology w/Lab	8
General Chemistry w/Lab	8
Physics with Lab	8
Statistics	3
Mathematics Total Hours	6
Psychology Total Hours	9
Sociology	3
Oral Communications	3
Mammalian Physiology or equivalent with Lab	4
Human Anatomy	4
English	6
Technical Writing	3

US History	6
US Government	6
Total Hrs Required	90
Minimum Overall GPA	3.1
Minimum Science GPA	3.1

PHYSICAL THERAPY ASSISTANT

Physical Therapy Assistants work under the direction of physical therapists to help patients restore bodily functions, prevent permanent disability, and relieve pain after an injury or illness. Therapy can include work and massage to increase strength, coordination, and range of motion. Physical Therapy Assistants also apply traction and heat, cold, light, and water treatments. They perform routine administrative tasks as well. Physical Therapy Assistants are employed in hospitals, nursing homes, rehabilitation centers, schools, and physicians' offices.

Average Salary: $28,000 - $47,500

Educational Requirements:

Students who want to become physical therapy assistants should have a high school diploma or an equivalent. To become a licensed physical therapy assistant, most states require students to earn an associate's degree and pass a certification exam.

Associated Affiliations:

American Academy of Physical Medicine and Rehabilitation
http://www.aapmr.org/Pages/default.aspx

American Physical Therapy Association
http://www.apta.org/

The National Rehabilitation Association
http://www.nationalrehab.org/cwt/external/wcpages/index.aspx

PT Assistant Programs in Texas:

Amarillo College
http://catalog.actx.edu/content.php?catoid=10&navoid=349

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Blinn College
http://www.blinn.edu/academics/degrees.html

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Houston Community College System
http://www.hccs.edu/hcc/System%20Home/Departments/Academics/Degree%20Plans/pdf/1011/HealthMedi

Kilgore College
http://www.kilgore.edu/programs.asp

Kingwood College
http://www.lonestar.edu/dental-hygiene-dept.htm

Laredo Community College
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lone Star College
http://lonestar.edu/programs-classes.htm

McLennan Community College
http://www.mclennan.edu/students/admissions/aprog.html

North Central Texas College
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=73&pid=3

Odessa College
http://www.odessa.edu/dept/

San Jacinto Community College-South
http://www.sanjac.edu/degrees-certificates

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

St. Philip's College
http://www.alamo.edu/spc/acad/ahd/default.asp

Tarrant County College
http://www.tccd.edu/Courses_and_Programs/Program_Offerings.html

Tyler Junior College
http://www.tjc.edu/nhp/

Victoria College
http://www.victoriacollege.edu/healthcareers

Wharton County Junior College
http://www.wcjc.edu/admin_offices_n/Registrars_Office/Registration/1_Admission.asp

PHYSICIAN

There are eight medical schools in Texas; seven allopathic medical schools award the MD degree and one osteopathic medical school awards the DO degree. Seven of the eight schools are state-supported with Baylor College of Medicine the only private medical school in the state. Baylor receives a subsidy from the Texas legislature that allows Texas residents to pay the same tuition to attend Baylor as to attend a state-supported medical school. Texas medical schools have a four-year professional curriculum, which is usually followed by a residency-training program lasting from three to as many as seven years, depending on the specialty. The core of basic sciences and clinical clerkships is similar at all of the medical schools with primary care (general practice, pediatrics, internal medicine and obstetrics) emphasized. Medical students awarded the MD or DO degree choose to enter either allopathic or osteopathic residencies, depending on their choice of specialty.

Most Often Required Prerequisite Courses:

Medical Schools in Texas [a]								
Medical Schools	BCOM	TAMU	TCOM	TTSOM	UTMB	UTH	UTSA	UTSW
Size of Class Admitted	168	64	115	120	200	200	200	200
Admissions Deadline	Nov. 1 [b]	Nov. 1 [c]	Nov. 1 [c]	Nov. 1 [c]	Nov. 1 [c]	Nov. 1 [c]	Nov. 1 [c]	Nov. 1 [c]
Minimum Semester Hours Prerequisites [d]	90	60	90	90	90	90	90	90
Biology [e]	8	14	8	14	14	14	14	14
Inorganic Chemistry with Laboratory [e]	8	8	8	8	8	8	8	8
Organic Chemistry with Laboratory [e]	8	8	8	8	8	8	8	8
Physics with Laboratory [e]	-	8	8	8	8	8	8	8
College Calculus [f] Or Statistics [g]	-	3	3	3	3	3 [h]	3	3
English [e]	6	6	6	6	6	6	6	6

Notes:
[a] Please be aware that these requirements can change. Check with your health professions advisor or the director of
admissions of the professional school for any changes or additional requirements.
[b] Through AMCAS.
[c] Through TMDSAS.
[d] Baccalaureate degree highly desirable.
[e] Must have grade of C or better

[f] Calculus course can be any calculus course taught by a Math or Physics Department grade C or better.
[g] Statistics course must be math based and preferably taught in Math Department; grade C or better.
[h] The U.T. Medical School at Houston does not accept Statistics to fulfill the Calculus requirement.

Guidelines for Applying to Texas Medical Schools

Medical school will usually assess six basic factors to judge performance in college and other qualifications for admission. These factors are residence status (preference given to Texas residents), cumulative grade point average (GPA), Medical College Admissions Test (MCAT) scores, a completed application form, the evaluations(s) submitted by the health professions advisor or advisory committee, and a personal interview.

State Residence:

By Texas State law, the enrollment of non-Texas resident applicants is limited to 10% of the entering class of Medical and Dental schools which receive state funding. Consequently, Texas residents are given preference in admissions and pay the more favorable resident tuition. You must be a resident of Texas at the time of application to be eligible for the Texas resident applicant pool. The Residency Status Rules and Regulations for determining residency published by the Texas Higher Education Coordinating Board.

Academic Performance:

The GPA is the major factor in evaluating academic performance. Also considered: consistency of grades, performance in required courses, course load per semester, number and academic rigor of colleges attended, discrepancies between GPA and MCAT scores, and social, economic and/or educational background.

Transcripts of all coursework and grades must be submitted to TMDSAS directly from each academic institution attended. In addition, a complete set of official transcripts must be provided, prior to enrollment, to all college work at all colleges attended and will be calculated by year, overall course, and science courses. All grades will be used in the calculations, regardless of whether courses are repeated.

Medical College Admissions Test (MCAT):

The MCAT is given in April and August throughout the U.S.A. and many other countries. Texas medical schools require applicants to submit MCAT scores during the application process. The MCAT is a standardized, multiple-choice examination designed to assist admission committees in predicting which of their applicants will perform adequately in the medical school curriculum. Candidates have two options in registering for the MCAT.

One:

Obtain your MCAT registration booklet from your health professions advisor, medical school admissions office or by contacting the MCAT Program Office, P. O. Box 4056, Iowa City, IA 52243-4056, and (319) 337-1357.

Two:

Register electronically through www.aamc.org/students/mcat/start.htm (the American Association of Medical Colleges web site) and click on Register On-Line.

The MCAT is an all-day test that assesses problem solving, critical thinking, and writing skills in addition to the knowledge of science concepts and principles. It is administered in four sections: Verbal Reasoning, Physical Sciences, Writing Sample, and Biological Sciences. The Verbal Reasoning (VR) section is designed to assess the student's ability to understand, evaluate, and apply arguments presented in prose passages. The section consists of 65 questions on 8-11 passages and takes 85 minutes. The passages are excerpted from periodicals with subjects ranging from Humanities to Social and Natural Sciences with 6-11 questions per passage.

The Physical Science (PS) section assesses reasoning in general chemistry and physics. The section consists of 77 questions on 9 - 12 passages and takes 100 minutes. Passages cover Physics and General Chemistry topics and experiments with 6-12 questions per passage in addition to 10-15 freestanding questions.

The Writing Sample (WS) section assesses the skill in developing a central idea; synthesizing concepts and ideas; presenting ideas cohesively and logically; and writing clearly using accepted practices of grammar, syntax, and punctuation consistent with timed, first-draft composition. It consists of writing two 30 –minute essays generated from philosophical and ethical prompts. The list of prompts is presented on the AAMC web site.

The Biological Science (BS) section assesses reasoning in Biology and Organic Chemistry. This section and the Physical Science section do not test the ability to memorize scientific facts, but assess knowledge of concepts and the facility at problem-solving in General Chemistry, Biology, and Physics. The Biological Science section is designed like the Physical Science section except the passages cover Biology and Organic Chemistry topics and experiments.

The Writing Sample is scored on an alphabetic scale ranging from J (lowest) to T (highest). Each letter represents the sum of the two scores on each of the two Writing Sample topics. The 50^{th} – percentile alphabetic score is 0.

Scaled score means and standard deviations for each section, percentages of students receiving each scaled score, and percentile rank ranges are provided to students with their MCAT score reports so that they may compare their performance to that of other students.

The mean total MCAT score for those students accepted to medical school in Texas during the last several years has been well above the national mean of applicants. Your health professions advisor can counsel you regarding your MCAT score and whether you should retake the MCAT. Applicants with high total MCAT scores and GPAs have a high likelihood of being interviewed by medical school admissions committees.

THE APPLICATION

There is a common electronic application for the state-supported medical and dental schools in Texas. The Application is made to the Texas Medical and Dental Schools Application Service (TMDSAS) at the Internet Website http://dpweb1.dp.utexas.edu/mdac/homepage.htm.

Application to Baylor College of Medicine is made to the American Medical Colleges Application Service (AMCAS) at http://www.aamc.org. Poorly or incorrectly prepared application forms can cause delays in action on the application and may influence initial screening or later consideration of the application. Following these hints can reduce the probability of a sloppy or inaccurate form.

Points To Remember:

Budget Sufficient Time:

Underestimating the amount of time required to prepare applications is almost inevitable. It is a tedious and time-consuming process.

Use Transcripts:

Obtain an unofficial transcript from each college or university attended. Use these transcripts when recording your course information on the applications; this will help to ensure accuracy of information. Also be sure to request that official transcripts from all colleges and universities attended be sent to the application service.

Photograph:

The filing fee for the web application is mailed with photographs to TMDSAS via return receipt mail. Although the photographs need not be studio portraits, they should be appropriate and professional in nature. For example, an informal snapshot taken at a costume party would not be appropriate; its selection might be interpreted as immature or unprofessional.

Be Honest:

Do not "pad" the list of extracurricular activities and vocational interests in and effort to create an image. For example, if you list accomplishments in chess on an application but cannot discuss the pros and cons of basic opening moves during the interview, you may make an impression, but probably not the intended one.

Personal Statement:

The personal statement of the application is EXTREMELY important. It should contain a logical, coherent statement that demonstrates maturity, good judgment, sincerity, and a realistic view of a medical career. This is also a good place to indicate motivation about a long-standing commitment or career goals, etc. Any previous work or volunteer experience with people, such as in a hospital, clinic, or research laboratory, shows an interest in and knowledge of medicine as a career and should be included. It is here that you can express your individuality. You should not be unduly modest.

Classifying Courses As Science or Non-Science:

When decisions must be made as to whether a specific course is science or non-science, courses such as engineering or pharmacy courses, medicine-related courses, and professional courses in nursing and the allied health sciences are generally considered sciences. Physical anthropology, psychobiology, and similar courses are more difficult to assign, but the way they are viewed on the campus where they are taken may serve as a guide.

Proofread Carefully:

Print a copy of the completed application and any secondary applications and review them for accuracy before submitting them to the application service. Spelling, grammatical, and typographical errors should obviously be corrected. Even with and electronic application, if you do not take care to see that your application is in good form, it may be assumed that you might not be concerned about details associated with good patient care.

Keep A Copy Of The Completed Application:

It is a good idea to print a copy of the application before submitting it. Such copies are helpful in completing other applications but also in refreshing you memory before an interview.

Check You Eligibility For An Application Fee Waiver:

Although TMDSAS does not grant application fee waivers, the professional school may. If you are receiving financial aid at your undergraduate school, you may be eligible for a waiver of part or the entire professional school application fee. A letter from a financial aid officer may be needed to document sufficient financial need.

Periodically Check On The Status Of Your Application:

Make sure that the application service has received all of the required information. It is the applicant's responsibility to ensure that his/her application is complete.

Health Professions Evaluation:

In addition to your MCAT scores and college transcript(s), you TMDSAS application will request a written evaluation submitted by your health professions advisor or advisory committee. A written evaluation from the Health Professions Advisory Committee at the applicant's school is preferred. If an applicant's institution does not have a Committee, two individual faculty letters are acceptable.

Interview:

An interview is required prior to a student's acceptance into medical school. An applicant may be invited (from August through December) to interview with the Admissions Committee. Interview invitations are based on your GPA, MCAT score, and personal statement. The Committee will assess non-cognitive factors such as communication skills, extracurricular activities and motivation for a career in medicine. After your interview, the admissions committee will consider your acceptance based on the above information in addition to the results of the interview and the letter of evaluation.

Timeline for Application:

A. Spring of Junior year:
1. Take MCAT in April.
2. Complete information, if required, for the Health Professions Advisory Committee at your school.
3. Submission of on-line application to TMDSAS and BCOM starting May 1.

B. Summer between Junior and Senior years:
1. Request your health professions advisor to mail evaluation to TMDSAS and BCOM.
2. If necessary, retake the MCAT in August.
3. Fall of senior year.
4. Interview at medical schools

Suggested Reading:

Following is a short list of reading materials that may be useful in preparing to enter medical school. Please realize that this is a selected list and the new books and other materials are continuously being published. Ask your advisor about any recent volumes, which may be helpful.

Medical School Catalogs: These may be available in your health professions advisor's office or you can access a catalog by visiting a medical school's web site.

Medical Professions Admission Guide: Strategy for Success. NAAHP, PO Box 1518, Champaign, IL 61824-1518 ; (217) 355-0063.

The following seven publications are available from the Association of American Medical Colleges (see address above). Order forms are also available in the MCAT registration packet.

- Medical School Admissions Requirements United States and Canada 2001-2002 (revised annually).
- MCAT Student Manual.
- MCAT Practice Test II (Book Set), 1991.
- MCAT Practice Test III and Solutions Booklet, 1995.
- MCAT Practice Test IV and Solutions Booklet, 1998.
- Scoring the MCAT Writing Sample: Example of Writing Sample Responses and Explanations of Their Scores, 1995.
- Minority Student Opportunities in United States Medical Schools. Provides information to underrepresented minorities (Blacks, Hispanics, Native Americans) applying to medical school.

For further information on medical programs in Texas contact:

Baylor University Baylor College of Medicine
http://www.bcm.edu/

Texas A&M University Health Science Center College of Medicine
http://medicine.tamhsc.edu/

Texas Tech University Health Sciences Center School of Medicine
http://www.ttuhsc.edu/som/prospective/

The University of Texas Medical Branch at Galveston School of Medicine
http://som.utmb.edu/

The University of Texas Health Science Center at Houston - Medical School
http://med.uth.tmc.edu/

The University of Texas Health Science Center San Antonio - Medical School
http://som.uthscsa.edu/

The UT Southwestern Medical Center at Dallas Medical School
http://www.utsouthwestern.edu/home/education/medicalschool/index.html

University of North Texas Health Science Center Texas College of Osteopathic Medicine
http://www.hsc.unt.edu/education/tcom/

PHYSICIAN ASSISTANT

Physician Assistants, frequently called PA's have a broad scope of duties and responsibilities, largely governed by the medical setting in which they work. PA's are regulated by the Texas State board of Medical Examiners and work under the supervision of physicians. Texas requires that the PA's supervising physician register with the Texas State Board of Medical Examiners and the PA's be licensed.

Duties of a Physician Assistant include: performing appropriate interviews and physical examinations; ordering and screening results of laboratory diagnostic studies; organizing and integrating information derived from the interview, examination, and laboratory; assisting with the performance of clinical procedures; instructing and counseling patients regarding preventative health care behaviors; monitoring responses to physician-directed programs of therapy; responding independently to life-threatening situations; facilitating patient access to appropriate health care services; making tentative assessments; making tentative diagnostic and therapeutic plans in such a way that the physician can perceive the medical problems and determine appropriate diagnostic and therapeutic steps; assisting the physician by performing diagnostic and therapeutic procedures; managing various common medical problems; treating minor cuts and wounds; removing casts; and changing dressings. In addition, PA's are employed as first and second assistants in surgery, particularly in cardiovascular and orthopedic surgery.

A Brief History of the Profession:

The Physician Assistant (PA) profession originated in the mid-1960's from the intuitive vision of Dr. Eugene Stead and others from Duke University, the University of Colorado, the University of Washington and Wake Forest University. These dedicated leaders recognized a need for a unique medical education program to meet the growing needs of primary health care delivery in the United States. Their goal was to train highly skilled health care professionals to assist physicians in the delivery of quality patient care. In the process, they developed a curriculum that taught individuals a body of clinical knowledge and skills that previously had been regarded as the professional domain of the physician.

The first program and the first class of six former corpsmen and medics with combat experience began at Duke University in 1965. Since that time, the PA profession has seen tremendous growth. PA's are recognized and respected as integral members of the health care team. PA's have been enabled to practice in 50 states, the District of Columbia, Guam and Puerto Rico, and they are prominent health care providers in the uniformed services, National Health Services Corp, the Veterans Administration, and federal facilities and state correctional facilities. PA's have delegated prescriptive authority in 41 states and in federal facilities. The Texas Academy of Physician Assistants represented by the American Academy of Physician Assistants, and in Texas PA's.

Average Salary: $59,000 – $87,000

Other Links to Physician Assistant Career:

American Academy of Physician Assistants
http://www.aapa.org/education-and-certification/physician-assistant-programs

Association of Postgraduate Physician Assistant Programs
http://www.appap.org/

National Commission on the Certification of Physician Assistants
http://www.nccpa.net/

Physician Assistant Education Association
http://www.paeaonline.org/

Texas Academy of Physician Assistants (TAPA)
http://www.tapa.org/

Texas State Board of Physician Assistant Examiners
http://www.tmb.state.tx.us/

Physician Assistant Programs in Texas:

There are seven physician assistant programs in the state. Baylor College of Medicine (Houston), Texas Tech University Health Science Center (Midland on the campus of Midland College), University of North Texas Health science Center (Fort Worth), The University of Texas Health Sciences Center at San Antonio, The University of Texas Medical Branch (Galveston), the University of Texas – Pan American (Edinburg), and The University of Texas Southwestern Medical Center (Dallas). All schools except The University of Texas – Pan American offer the MS in Physician Assistant Studies upon completion of their program; Pan American offers the BS in Physician Assistant Studies. The Texas Board of Physician Assistant Examiners must license PA's. To be licensed in Texas as a PA one has to be a graduate from an accredited PA program and to pass the national certification examination administered by the National Commission on Certification of Physician Assistants.

Application:

There is a common electronic application for four of the seven physician assistant programs in Texas: Baylor College of Medicine, University of North Texas Health Science Center, The University of Texas Medical Branch, and The University of Texas Southwestern Medical Center. Online application is made to the Central Application Service for Physician Assistants (CASPA) at http://secure.caspaonline.org . Application to the other three programs is made directly to the schools.

Physician Assistant Programs in Texas:

Baylor College of Medicine
http://www.bcm.edu/pap/

Texas Tech University Health Sciences Center
http://www.ttuhsc.edu/sah/mpa/

University of North Texas Health Science Center
http://www.hsc.unt.edu/education/pasp/

The UT Health Sciences Center at San Antonio
http://www.uthscsa.edu/shp/pa/

UT Medical Branch
http://shp.utmb.edu/pas/

UT - Pan American
http://portal.utpa.edu/utpa_main/daa_home/hshs_home/pasp_home

U T Southwestern Medical Center at Dallas
http://www.utsouthwestern.edu/utsw/cda/dept48945/files/54102.html

Most Often Required Prerequisite Courses

Physician Assistant Programs in Texas a							
Physician Assistant Schools b	BCOM	TTU	UNT	UTMB	UTSA	UTSW	UTPA
Size of class	30			48	20	40	25
GPA Required: Overall	3.00	2.75	2.85	23.0	2.75	3.00	2.5
Program Length in Months	30	31	34	26	36	27	
Admission Exam Required	GRE	GRE		GRE		GRE	
Health Care Experience	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Application Deadline	12/1	12/15	2/1	12/1	10/1	11/15	12/31
Minimum Prerequisite	Degree	66 hrs	90 hrs	Degree	90 hrs	Degree	61 hrs
Degree Offered	MSPAS	MSPAS	MSPAS	MSPAS	MSPAS	MSPAS	BSPAS
General Biology w/lab		8	8	8	8	8	8
Human Anatomy/Physiology	8	8	8	7-8	8		6
Microbiology	4	4	4	4	4	4	4
Biochemistry			3	4			
Immunology or genetics			3	4		3	
General Chemistry w/lab	8	8	8	8	8	8	
Organic Chemistry w/lab	4			4	4	4	
Communication		Rec			3		

Skills/Speech							
English	3	6	6		6	6	9
US History			6		6		6
US/TX Government			6		6		6
College Algebra or Higher		3	3	3	3	3	3
Statistics	3	3	3	3	3	3	
Computer Science/Literacy	3	Rec		2	3	3	2
Medical Terminology	Rec	Rec				1	
Nutrition		3			3		3
Psychology	6	9	6	3	3	3	
Sociology/Anthropology		3	3	3	3	3	
Electives		14	23		15		16

PODIATRIST

A Doctor of Podiatric Medicine (D.P.M.) specializes in the prevention, diagnosis, and treatment, through both medical and surgical means, of diseases and disorders affecting the human foot. A Doctor of Podiatric Medicine makes independent judgments, administers treatment, prescribes medication, and when necessary, performs surgery. There are no colleges of podiatric medicine in Texas.

To prepare for admission to a college of podiatric medicine a student must have at least 90 semester hours (preferably a baccalaureate degree). There are seven accredited colleges of podiatric medicine in the US. The Council on Podiatry Education of the American Podiatric Medical Association is the accrediting agency and applicants are evaluated on the basis of GPA, performance on the MCAT (or in some cases the GRE), extracurricular and community activities and personal interview. Admission criteria may vary slightly by college so please contact the college(s) of your choice to obtain a copy of its catalog for specific requirements.

Six of the seven colleges of podiatric medicine participate in a centralized application service through the American Association of College of Podiatric Medicine Application Service (AACPMAS). Students may apply by submitting only one application for part or all of the six colleges. Application data is collected and collated, GPAs computed, and all standardized applications forwarded to all but one of the colleges. The AACPMAS begins processing applications after Labor Day for Fall Admission the following year. The deadline for priority consideration is April 1 and the final application deadline is August 15 of each year for fall admission of the same year. Application to New York College of Podiatric Medicine (NYCPM) is made directly to that college. Applicants are encouraged to apply before May 1 of each year for fall admission of the same year. For application packets download them at:

Association:

American Association of College of Podiatric Medicine
http://www.aacpm.org/

Texas State Board of Podiatric Medical Examiners
http://www.foot.state.tx.us/licensing.colleges.htm

Most Often Required Prerequisite Courses:

Podiatric Colleges in the U.S. a							
Podiatric Colleges b	BSPM	CCPM	CPMS	NYPM	OCPM	SCPM	TSPM
Min. Sem. Hrs. Prereq. c	90	90	90	90	90 d	90	90
Biology e	8	8	8	8	8	12	8
General Chemistry e	8	8	8	8	8	8	8
Organic Chemistry e	8	8	8	8	8	8	8
Physics e	8	8	8	8	8	8	8

English	6	6	6	6	6	6	6

A. NOTE: Please be aware that these requirements can change. Check with your health professions advisor or the
director of admissions of the professional school for any changes or additional requirements.
B. BSPM: Barry University Podiatric Medicine and Surgery Program, Miami Shores, FL
CCPM: California College of Podiatric Medicine, San Francisco, CA
CPMS: Des Moines University College of Podiatric Medicine and Surgery, Des Moines, IA
NYPM: New York College of Podiatric Medicine, New York, NY
OCPM: Ohio College of Podiatric Medicine, Cleveland, OH
SCPM: School College of Podiatric Medicine, Chicago, IL
TSPM: Temple University School of Podiatric Medicine, Philadelphia, PA
C. Baccalaureate degree highly desirable.
D. Students admitted without a baccalaureate degree are expected to have successfully completed
the general/liberal education core requirements of their undergraduate institution.
E. With laboratory.

Accredited Colleges of Podiatric Medicine:

Arizona Podiatric Medicine Programs at Midwestern University
http://www.midwestern.edu/Programs_and_Admission/AZ_Osteopathic_Medicine.html

Barry University Podiatric Medicine and Surgery
http://www.barry.edu/podiatry/default.htm

California School of Podiatric Medicine
http://www.samuelmerritt.edu/podiatric_medicine

Des Moines University- Osteopathic Medical Center
http://www.dmu.edu/do

New York College of Podiatric Medicine
http://www.nycpm.edu/

Ohio College of Podiatric Medicine
http://www.ocpm.edu/?page=home

Rosalinda Franklin University of Medicine and Science
http://www.rosalindfranklin.edu/dnn/administration/Admissions/tabid/1629/Default.aspx

Temple University Podiatric Medicine Program
http://www.temple.edu/healthadvising/brochure_Podiatric_Medicine.htm

PSYCHOLOGIST

Psychologists study the human mind and human behavior in an effort to provide diagnosis and/or therapy for patients suffering form mental, emotional, or behavioral problems. Once a problem is identified, they determine the best treatment and monitor the patient's progress. Psychologists collect data through a variety of methods including interviews, medical and case histories, and other observational techniques. They often select, administer, and interpret psychological tests that help precisely identify mental health problems. They also consult with parents, teachers, counselors, and others that may have insight into a patient's mental health history. Another important function that psychologists perform is research. They develop and evaluate mental health programs, and then publish their findings in professional and trade journals. The American Psychological Association recognizes nearly 50 specialties in this field; among them are clinical, educational, developmental, cognitive, counseling, industrial-organizational, social, exercise and sports, personality, experimental, psychoanalysis, and neuropsychology. An individual interested in psychology should be emotionally stable and have excellent oral and written communication skills.

Work Environment:

Psychologists work in a variety of settings including hospitals, schools and universities, correctional facilities, government agencies, rehabilitation facilities, clinics, private offices, industries, community mental health facilities, and businesses. They may work alone or in conjunction with other psychologists, psychiatrists, or other medical professionals.

Average Salary: $32,000 - $59,500

Professional Organizations:

American Psychological Association
http://ww.apa.org

National Institute of Mental Health
www.nimh.nih.gov

High School Preparation:

Students interested in becoming a psychologist should concentrate on high school courses in biology, chemistry, algebra, English (literature and composition), history, psychology, sociology, computer skills, social studies, health occupations/medical professions education, and foreign languages.

College Requirements:

Psychologists are generally required to obtain a Ph.D., a Psy.D. (Doctor of Psychology), or an Ed.S. (Educational Specialist) degree in order to practice psychology. A doctoral degree will qualify an individual to conduct research, conduct clinical counseling, and teach a variety of topics in schools and universities. In order to specialize, two years of post-doctoral study is

required. Individuals with a master's degree or a bachelor's degree can work under the supervision of a psychologist as a psychological assistant. This allows them to conduct research, perform administrative duties, and conduct psychological evaluations. Students interested in psychology should contact schools for information on admission and course of study.

Career Outlook:

Employment opportunities for psychologists are expected to grow between 10%-20% through the year 2010. People holding doctoral degrees with emphasis in areas such as counseling, health, and educational psychology will find many job opportunities. Graduates with a master's degree will find the best possibility for employment in positions involving school and industrial-organizational psychology. This is due to the fact that schools and businesses are expected to increase counseling and mental health services. Many companies are beginning to offer employee assistance programs that help employees deal with personal problems. The fastest growth in the healthcare sector will be in outpatient mental health and substance abuse treatment programs.

Psychology Programs:

Abilene Christian University
http://www.acu.edu/academics/undergrad.html

Alvin Community College
http://www.alvincollege.edu/degrees/

Amarillo College
http://catalog.actx.edu/content.php?catoid=10&navoid=349

Amberton University
http://www.amberton.edu/Default.aspx

Angelina College
http://www.angelina.edu/interest/index.html

Angelo State University
http://www.angelo.edu/dept/admissions/degreeprograms.html

Austin Community College
http://www.austincc.edu/cataloghtml/plans.php

Baylor University
http://www.baylor.edu/admissions/index.php?id=54974

Blinn College
http://www.blinn.edu/academics/degrees.html

Cisco College
http://www.cisco.edu/s/926/start.aspx

Clarendon College
http://www.clarendoncollege.edu/students/academics.php

Dallas Baptist University
http://www3.dbu.edu/academics/undergraduate.asp

Del Mar College
http://www.delmar.edu/academics/academicdepts.php

El Paso Community College
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Frank Phillips College
http://www.fpctx.edu/Students/DegreesCerts/DegreesCerts_03042010.htm

Grayson County College
http://www.grayson.edu/website/Programs/programsAvailable.aspx

Hardin-Simmons University
http://www.hsutx.edu/academics/undergraduate/

Houston Baptist University
http://www.hbu.edu/hbu/Undergraduate_Majors_and_Programs.asp?SnID=918896669

Howard Payne University
http://www.hputx.edu/s/668/howardpayne.aspx?pgid=874

Kilgore College
http://www.kilgore.edu/programs.asp

Lamar University
http://www.lamar.edu/academics

LeTourneau University
http://www.letu.edu/opencms/opencms/Admissions/majors-list/

Lubbock Christian University
http://www.lcu.edu/majors-programs.html

McMurry University
http://www.mcm.edu/newsite/web/academics/ncs/index.htm

Midland College
http://www.midland.edu/students/academics/allprograms.php

Midwestern State University
http://www.mwsu.edu/profiles/viewcolleges.asp

Navarro College
http://www.navarrocollege.edu/areas-of-study-overview.php

Odessa College
http://www.odessa.edu/dept/

Our Lady of the Lake University
http://www.ollusa.edu/s/1190/ollu.aspx?sid=1190&gid=1&pgid=866

Paris Junior College
http://www.parisjc.edu/index.php/pjc/content-pjc/programs-of-study/

Prairie View A&M University
http://www.pvamu.edu/pages/6879.asp

Rice University
http://www.rice.edu/catalog/2010_2011/departments.html

Sam Houston State University
http://www.shsu.edu/catalog/degrees.html

San Antonio College
http://www.alamo.edu/sac/alldhlth/default.htm

San Jacinto College
http://www.sanjac.edu/degrees-certificates

Schreiner University
http://www.schreiner.edu/academics/majors.html

South Plains College
http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

Southern Methodist University
http://www.smu.edu/Admission/Academics/Majors.aspx

Southwestern Adventist University
http://www.swau.edu/academics

Southwestern University
http://www.southwestern.edu/academics/departments.php

St. Philips College
http://www.alamo.edu/spc/acad/ahd/default.aspx

Stephen F. Austin State University
http://www.sfasu.edu/44.asp

Sul Ross State University
http://www.sulross.edu/pages/3079.asp

Tarleton State University
http://www.tarleton.edu/catalog/undergraduate-academic-programs/undergrad-degrees.html

Temple College
http://www.templejc.edu/dept/dept.htm

Texas A & M International University
http://www.tamiu.edu/current.shtml

Texas A & M University
http://admissions.tamu.edu/freshmen/whyaggieland/UniquePrograms/colleges/

Texas A&M University Commerce
http://web.tamu-commerce.edu/academics/azPrograms.aspx

Texas A & M University-Corpus Christi
http://www.tamucc.edu/academics/index.html

Texas A & M University-Kingsville
http://www.tamuk.edu/academics/index.html

Texas A & M University-Texarkana
http://www.tamut.edu/academicserv/degreeplanning.html#Stem

Texas Christian University
http://www.tcu.edu/academics.asp

Texas Lutheran University
http://www.tlu.edu/academics

Texas Southern University
http://www.cost.tsu.edu/WebPages/departments.html

Texas State University-San Marcos
http://www.txstate.edu/about/degree_list.html

Texas Tech University
http://www.ttu.edu/academics/programs_degree.php

Texas Wesleyan University
http://web3.txwes.edu/aboutus/academics.htm

Texas Woman's University
http://www.twu.edu/admissions/programs-majors.asp

The University of Texas at Arlington
http://www.uta.edu/admissions/majors.php#az

The University of Texas at Austin
http://www.utexas.edu/student/admissions/ugdegrees.html

The University of Texas at Brownsville
http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx?Paged=TRUE&p_Title0=
Music%20%2d%20 Instrumental&p_ID=69&View= %7b55FF3EA3%2d5782% 2d4D77%
2d8285%2d1CF2C53CD644%7d&PageFirstRow=101

The University of Texas at Dallas
http://www.utdallas.edu/academics/

The University of Texas at El Paso
http://www.utep.edu/academicprograms/

The University of Texas at San Antonio
http://www.utsa.edu/academics/academic-departments.html

The University of Texas at Tyler
http://www.uttyler.edu/academics/

The University of Texas of the Permian Basin
http://www.utpb.edu/future-students/undergraduate-programs/

The University of Texas - Pan American
http://www.utpa.edu/academics/degree-programs/

Trinity University
http://web.trinity.edu/x1167.xml

University of Dallas
http://www.udallas.edu/academics/academicdepts

University of Houston
http://www.uh.edu/academics/majors-minors/majors/index.php

University of Mary Hardin-Baylor
http://undergrad.umhb.edu/

University of North Texas
http://www.unt.edu/pais/insert/undergradList.htm

University of the Incarnate Word
http://www.uiw.edu/home/academics/index.html

West Texas A & M University
http://www.wtamu.edu/student-support/list-degrees-college-dept.aspx

Western Texas College
http://www.wtc.edu/career_tech.html

Wharton County Junior College
http://www.wcjc.edu/admin_offices_n/Registrars_Office/Registration/1_Admission.asp

PUBLIC HEALTH PROFESSIONAL

Public Health is the branch of medicine concerned with prevention and control of disease and disability, and the promotion of physical and mental health of the population. In early 1900, the life expectancy in the US was 40 years of age. It has increased to 81 years since then and much of the increase is due to relatively inexpensive public health prevention and health promotion measures which include: immunization programs, the eradication of smallpox, procedures for ensuring the safety of food and water supplies, and the safe disposal of various waste products. Healthcare dynamics have changed rapidly and public health has necessarily emerged on a broader and more vital front so that today, professionals in the field take leadership roles in addressing national and international problems. With the success of eradicating smallpox, public health professionals have implemented programs to eradicate polio. They have been working to contain HIV/AIDS, the re-emergence of TB in the US, and the Ebola virus epidemic in Africa. Community specialists conduct needs assessments of population groups, and plan, implement, administer, and evaluate programs related to those needs. Public Health Professionals continue to be involved with food safety and food fortification programs that reduce the risk of nutrient deficiency diseases, such as pellagra, rickets, and goiter, which plagued us in the past.

Maternal and child health professionals design programs to improve pregnancy outcomes among African American women who are at greater risk of delivering pre-term babies than are their Hispanic and White counterparts. Public Health Professionals work closely with school age populations on issues relating to teenage pregnancy, sexually transmitted diseases, violence, and substance abuse. Public Health Professionals use their expertise in economic and policy issues to solve problems of cost containment, insurance coverage for the uninsured and the underinsured, and access to care for various populations. Specialists in the areas of occupational and environmental health deal with safety issues in workplace settings as varied as agriculture, computer manufacturing, and the petrochemical industry.

In spite of notable progress, low-income populations in the US lag behind some developing countries in immunization levels, and we rank 20th among industrialized nations in infant mortality rates. Approximately 40 million US citizens are either uninsured or underinsured for health care coverage. We have a significant percentage of unwed mothers in all ethnic groups, lung cancer now surpasses breast cancer as a cause of death among women, and the spread of HIV/AIDS is increasing in the heterosexual population and among minorities.

Current educational programs and education received from Schools of Public Health attempt to address these complex problems. These schools differ from other health-related schools in that they are oriented toward community and prevention rather than toward the individual and treatment. Students are made aware of the necessity for interdisciplinary cooperation, and they develop the skills necessary to address today's complex health problems. This emphasis on interdisciplinary activity and cooperation presents opportunities for students from a variety of academic backgrounds.

Schools of Public Health offer a range of degree program that generally include the Master of Public Health (MPH), the Doctor of Public Health (Dr.PH), Masters of Science (MS), and PhD. The areas of specialty in the degree programs vary from school to school as do the GPA, GRE,

TOEFL, and work experience requirements for admission, the thesis or non-thesis status, the minimum number of credit hours required for graduation, and the tuition and living costs. Many of the schools offer joint degree programs and many maintain degree programs on more than one campus.

Schools of Public Health:

Texas A&M University Health Science Center School of Rural Public Health
http://srph.tamhsc.edu/

The University of Texas Health Science Center at Houston
http://www.sph.uth.tmc.edu/

The University of Texas at Houston - Brownsville
http://www.sph.uth.tmc.edu/Campuses/Brownsville//

The University of Texas at Houston - El Paso
http://www.sph.uth.tmc.edu/Campuses/El-Paso/

The University of Texas at Houston - San Antonio
http://www.sph.uth.tmc.edu/Campuses/San-Antonio/

University of North Texas Health Science Center
http://www.hsc.unt.edu/education/sph/

RECREATINAL THERAPIST

Recreational therapists, sometimes called activities therapists, plan and implement treatment programs in an effort to improve a patient's physical, mental, and emotional well-being. These treatment programs are usually prescribed by a physician, and consist of activities such as sports, music, games, arts and crafts, drama, dance, and field trips. Recreational therapists confer with physicians, nurses, families, and patients themselves to determine the goals and objectives of the therapy. They then develop a therapeutic regiment that is consistent with the patient's needs, capabilities, and interests. They observe and document the patient's progress or regression, then submit these reports to the physician and other members or the rehabilitation team so changes can be made if necessary. A recreational therapist's main concern is helping an individual overcome adversity by building confidence, helping patient's socialize effectively, and remedying the effects of illness or disability. Other work activities include maintaining the confidentiality of patient therapy records, educating the public on the benefits of an active lifestyle, and planning leisure activities for patients in nursing homes and residential care facilities. Recreational therapists may also specialize in areas such as manual arts therapy or horticultural therapy. Individuals interested in this type of therapy should have good communication skills and enjoy working with people with a wide range of therapeutic needs.

Work Environment:

Recreational therapists work in a variety of environments including hospitals, nursing homes, rehabilitation facilities; long term and intermediate care facilities, correctional institutions, substance abuse centers, behavioral health centers, and private practice.

Salary:

Average Annual Salary: $30,500
Salary Range : $23,200 - $38,600

Professional Organizations:

American Therapeutic Recreation Assoc.
http://www.atra-online.com/

The National Council for Therapeutic Recreation
http://www.nctrc.org/

High School Preparation:

High school students interested in becoming a recreational therapist should concentrate on courses in biology, algebra, English, literature, physical education, computer skills, physical science, psychology, sociology, and health occupations/medical professions education.

College Requirements:

Individuals interested in recreational therapy must have a high school diploma or equivalent. Employers usually require a bachelor's degree in recreational therapy from an accredited institution, but may hire an individual with an associate degree or sufficient work experience. The National Council for Therapeutic Recreation Certification offers certification for therapeutic recreation specialists who pass a national examination.

Career Outlook:

Employment opportunities for recreational therapists are expected to grow steadily through the year 2012. The rapidly growing elderly population is expected to spur growth in the job market. While hospitals and nursing homes are cutting back on the recreational therapy staff to cut costs, outpatient settings will see a tremendous increase in the number of trained personnel needed. Employment will grow in assisted living facilities, outpatient physical and psychiatric rehabilitation clinics, and facilities specializing in services for people with disabilities. Individuals with a bachelor's degree or a master's degree will have the best career opportunities in this field.

Texas Schools:

Austin Community College
http://www.austincc.edu/huse/rect/

Texas State University-San Marcos
http://www.hhp.txstate.edu/Degree-Plans/Undergraduate.html

University of North Texas
http://www.unt.edu/majors/urecr.htm

REGISTERED DIETITIAN

Registered Dietitians integrate and apply the principles derived from the sciences of food, nutrition, biochemistry, physiology, food management, and behavior to achieve and maintain the health status of the public they serve. Dietitians work in a variety of settings such as:

- Clinical Dietitians work as a part of a team in hospitals, nursing homes, and other health care facilities.
- Community Dietitians work in public and home health agencies, health and recreation clubs, and in government funded programs.
- Educator Dietitians work in college or universities teaching future Physicians, Physician Assistants, Nurses, Dietitians, and Dietetic Technicians.
- Research Dietitians work in government agencies, food and pharmaceutical companies where they direct or conduct experiments in order to answer critical nutrition questions and to continue to provide information to modify dietary recommendations for the public.

Average Salary: $33,000 - $52,000

Educational Requirements:

Educational requirements are variable depending on the educational program chosen. Particular prerequisite coursework may vary. The professional component is a minimum of two years at the baccalaureate or master's degree level.

Post baccalaureate supervised practice programs vary from six (6) months to two (2) years. There are different types of programs offered depending on the educational facility.

A Coordinated Program offers a didactic academic program in a college or university and a minimum of 900 hours of supervised clinical experience. Completion of this type of program prepares you to take the national certifying exam to become a Registered Dietitian.

A Didactic Program offers a didactic academic program in a college or university and enables the graduate to apply for a clinically supervised practice program leading to eligibility to sit for the national certifying exam. A Dietetic Internship/Pre-professional practice program provides a minimum of 900 hours of supervised clinical practice most likely in a sponsored healthcare facility. This may be full-time or part-time completed within a two-year period. Upon completion this enables the graduate to sit for the national certifying exam.

Students must complete a didactic program before entering the dietetic internship.

Associated Affiliations:

American Dietetic Association (ADA)
http://www.eatright.org/

Registered Dietitian Schools:

Abilene Christian University
http://www.acu.edu/academics/undergrad.html

Baylor University
http://www.baylor.edu/admissions/index.php?id=54974

Lamar University
http://www.lamar.edu/academics

Prairie View A&M University
http://www.pvamu.edu/pages/6879.asp

Sam Houston State University
http://www.shsu.edu/catalog/degrees.html

Stephen F. Austin State University
http://www.sfasu.edu/44.asp

Texas A&M University
http://admissions.tamu.edu/freshmen/whyaggieland/UniquePrograms/colleges/

Texas A&M University - Kingsville
http://www.tamuk.edu/academics/index.html

Texas Christian University
http://www.tcu.edu/academics.asp

Texas Southern University
http://www.cost.tsu.edu/WebPages/departments.html

Texas State University - San Marcos
http://www.txstate.edu/about/degree_list.html

Texas Tech University
http://www.ttu.edu/academics/programs_degree.php

Texas Woman's University
http://www.twu.edu/admissions/programs-majors.asp

The University of Texas at Austin
http://www.utexas.edu/student/admissions/ugdegrees.html

The University of Texas - Pan American
http://www.utpa.edu/academics/degree-programs/

University of Houston
http://www.uh.edu/academics/majors-minors/majors/index.php

University of the Incarnate Word
http://www.uiw.edu/home/academics/index.html

University of Texas Southwestern Medical Center at Dallas
http://www.swmed.edu/

Registered Dietitian Didactic Internship Programs:

Sam Houston State University
http://www.shsu.edu/catalog/degrees.html

Stephen F. Austin State University
http://www.sfasu.edu/44.asp

The University of Texas Health Science Center at Houston
http://www.sph.uth.tmc.edu/

Texas A&M University
http://admissions.tamu.edu/freshmen/whyaggieland/UniquePrograms/colleges/

Texas A&M University - Kingsville
http://www.tamuk.edu/academics/index.html

Texas State University - San Marcos
http://www.txstate.edu/about/degree_list.html

Texas Tech University
http://www.ttu.edu/academics/programs_degree.php

Texas Woman's University
http://www.twu.edu/admissions/programs-majors.asp

University of Houston
http://www.uh.edu/academics/majors-minors/majors/index.php

University of the Incarnate Word
http://www.uiw.edu/home/academics/index.html

RESEARCH SCIENTIST

Research Scientists study diseases, drugs, microorganisms, the environment, and other areas related to human health in an effort to prolong life by helping to prevent and cure illnesses. They conduct research to determine the action of foods, drugs, hormones, nutrients, and other substances on the tissues and processes of living things. They often develop new vaccines and treatments to combat disease, as well as develop new tests to detect diseases and other abnormalities that affect human health.

Research scientists may specialize in a variety of different areas such as anatomy, bacteriology, biochemistry, biophysics, biostatistics, epidemiology, genetics, immunology, marine biology, microbiology, molecular biology, pathology, pharmacology, physics, or virology.

Research scientists may work alone or as part of a team that may include several laboratory assistants. They are sometimes called upon to develop and build new laboratory instruments, space vehicles, or underwater equipment that will assist them in their research. They usually conclude their research by writing detailed reports and scientific papers that are submitted to professional journals for publication. Individuals interested in this profession should have a high aptitude for math and science, as well as have a high level of motivation and an inquisitive mind.

Work Environment:

The majority of research scientists work in a laboratory setting. Many are employed by hospitals, government, colleges or universities, and commercial laboratories. Even though they work with chemicals, plants, animals, and microorganisms that can cause disease and illness, the work is usually not dangerous if safety procedures are followed.

Salary:

Average Annual Salary: $63,000
Salary Range : $35,000 - $100,000

Professional Organizations:

American Institute of Biological Sciences
www.aibs.org

Federation of American Societies for Experimental Biology
www.faseb.org

National Academy of Sciences National Research Council
www.national academies.org/nrc/

High School Preparation:

Students interested in research science should concentrate on high school courses in algebra, geometry, trigonometry, calculus, biology, chemistry, physics, English, literature, computer skills, and health occupations/medical professions education.

College Requirements:

Individuals interested in becoming a research scientist must have at least a master's degree in a scientific field. However, advanced degrees are usually required for most employment opportunities. A doctoral degree is required for anyone conducting advanced research and to advance to many management and administrative jobs.

Career Outlook:

The career outlook for research scientists is going to be excellent over the next decade and an expected growth of over 35% in the job market. Doctoral degree holders will command the highest salary, but will face considerable competition for basic research positions as the federal government tightens its budget in many areas of medical research. Individuals with master's degree will find excellent opportunities in non-research areas such as marketing, sales, and research management. Research scientists are also less likely to lose their jobs during recession than those in many other occupations because many are employed on long-term research projects.

Schools with Biology, Chemistry, Physics Degrees:

Abilene Christian University
http://www.acu.edu/academics/undergrad.html

Angelo State University
http://www.angelo.edu/dept/admissions/degreeprograms.html

Austin College
http://www.austincollege.edu/academics/majors-and-minors/

Baylor University
http://www.baylor.edu/admissions/index.php?id=54974

Concordia University at Austin
http://www.concordia.edu/page.cfm?page_ID=136

Dallas Baptist University
http://www3.dbu.edu/academics/undergraduate.asp

East Texas Baptist University
http://www.etbu.edu/Academics/Majors/

Hardin-Simmons University
http://www.hsutx.edu/academics/undergraduate/

Houston Baptist University
http://www.hbu.edu/hbu/Undergraduate_Majors_and_Programs.asp?SnID=918896669

Howard Payne University
http://www.hputx.edu/s/668/howardpayne.aspx?pgid=874

Huston-Tillotson University
http://cas.htu.edu/

Jacksonville College
http://www.jacksonville-college.edu/deps.htm

Jarvis Christian College
http://www.jarvis.edu/pages/acadaffairs/acadprograms.html

Lamar University - Beaumont
http://www.lamar.edu/academics

LeTourneau University
http://www.letu.edu/opencms/opencms/Admissions/majors-list/

Lubbock Christian University
http://www.lcu.edu/majors-programs.html

McMurry University
http://www.mcm.edu/newsite/web/academics/ncs/index.htm

Midwestern State University
http://www.mwsu.edu/profiles/viewcolleges.asp

Our Lady of the Lake University
http://www.ollusa.edu/s/1190/ollu.aspx?sid=1190&gid=1&pgid=866

Prairie View A&M University
http://www.pvamu.edu/pages/6879.asp

Rice University
http://www.rice.edu/catalog/2010_2011/departments.html

Saint Edward's University
http://www.stedwards.edu/academics/bachelors/programs

Sam Houston State University
http://www.shsu.edu/catalog/degrees.html

Schreiner University
http://www.schreiner.edu/academics/majors.html

Southern Methodist University
http://www.smu.edu/Admission/Academics/Majors.aspx

Southwestern Adventist University
http://www.swau.edu/academics

Southwestern University
http://www.southwestern.edu/academics/departments.php

St. Mary's University
http://www.stmarytx.edu/academics/index.php?site=undergraduate

Stephen F. Austin State University
http://www.sfasu.edu/44.asp

Sul Ross State University
http://www.sulross.edu/pages/3079.asp

Sul Ross State University - Rio Grande College
http://rgc.sulross.edu/pages/101.asp

Tarleton State University
http://www.tarleton.edu/catalog/undergraduate-academic-programs/undergrad-degrees.html

The University of Texas Health Science Center at Houston
http://www.sph.uth.tmc.edu/

Texas A&M Health Science Center
http://tamhsc.edu/education/degrees.html

Texas A&M International University
http://www.tamiu.edu/current.shtml

Texas A&M University
http://admissions.tamu.edu/freshmen/whyaggieland/UniquePrograms/colleges/

Texas A&M University - Commerce
http://web.tamu-commerce.edu/academics/azPrograms.aspx

Texas A&M University - Corpus Christi
http://www.tamucc.edu/academics/index.html

Texas A&M University - Kingsville
http://www.tamuk.edu/academics/index.html

Texas A&M University - Texarkana
http://www.tamut.edu/academicserv/degreeplanning.html#Stem

Texas Christian University
http://www.tcu.edu/academics.asp

Texas Lutheran University
http://www.tlu.edu/academics

Texas Southern University
http://www.cost.tsu.edu/WebPages/departments.html

Texas State University – San Marcos
http://www.txstate.edu/about/degree_list.html

Texas Tech University
http://www.ttu.edu/academics/programs_degree.php

Texas Wesleyan University
http://web3.txwes.edu/aboutus/academics.htm

Texas Woman's University
http://www.twu.edu/admissions/programs-majors.asp

Trinity University
http://web.trinity.edu/x1167.xml

University of Dallas
http://www.udallas.edu/academics/academicdepts

University of Houston
http://www.uh.edu/academics/majors-minors/majors/index.php

University of Houston - Clear Lake
http://prtl.uhcl.edu/portal/page/portal/HOMEPAGE/AcademicTab/Under#health

University of Houston - Downtown
http://www.uhd.edu/academic/colleges/sciences/collegeMajor.html

University of Mary Hardin-Baylor
http://undergrad.umhb.edu/

University of North Texas
http://www.unt.edu/pais/insert/undergradList.htm

University of St. Thomas
http://www.stthom.edu/Degrees_Programs_Courses/Undergraduate_Degrees/Index.aqf

University of Texas at Arlington
http://www.uta.edu/admissions/majors.php#az

University of Texas at Austin
http://www.utexas.edu/student/admissions/ugdegrees.html

University of Texas at Brownsville
http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx?Paged=TRUE&p_Title0=
Music%20%2d%20 Instrumental&p_ID=69&View= %7b55FF3EA3%2d5782% 2d4D77%
2d8285%2d1CF2C53CD644%7d&PageFirstRow=101

University of Texas at Dallas
http://www.utdallas.edu/academics/

University of Texas at El Paso
http://www.utep.edu/academicprograms/

University of Texas at San Antonio
http://www.utsa.edu/academics/academic-departments.html

University of Texas at Tyler
http://www.uttyler.edu/academics/

University of Texas Health Science Center at Houston
http://www.sph.uth.tmc.edu/

University of Texas Medical Branch
http://www.utmb.edu/

University of Texas of the Permian Basin
http://www.utpb.edu/future-students/undergraduate-programs/

University of Texas - Pan American
http://www.utpa.edu/academics/degree-programs/

University of Texas Southwestern Medical Center at Dallas
http://www.swmed.edu/

University of the Incarnate Word
http://www.uiw.edu/home/academics/index.html

University of North Texas Health Science Center
http://www.hsc.unt.edu/ProspectStudents/

Wayland Baptist University
http://www.wbu.edu/academics/

West Texas A&M University
http://www.wtamu.edu/student-support/list-degrees-college-dept.aspx

RESPIRATORY THERAPIST

In 1946, a new profession and a new addition in a continually expanding universe of health care professions emerged. Since that time, the technology and the theoretical base for the profession have grown tremendously, and respiratory care therapists have become integral constituents of the health care team. Careers in respiratory care are challenging, interesting, and rewarding.

The clinical practice of respiratory care involves the application of skills and knowledge in the diagnosis and treatment of cardiopulmonary diseases. Because many types of illnesses involve heart and lung failure, respiratory therapists care for patients from all age groups who suffer from a broad spectrum of diseases. Respiratory Therapists perform their duties in all patient care settings of hospitals (with their primary involvement being the intensive care units). They also staff laboratories that engage in diagnosis of cardiopulmonary diseases, provide respiratory care for patients at home, and are involved in the transportation of patients who require respiratory care en-route to and from the hospital or home.

Individuals practicing respiratory care should be mature, responsible persons with strong interpersonal skills and the desire to care for others. Interest and competence in the basic science are strong determinants in the academic success of a respiratory care student. Respiratory care involves the application of highly technological equipment to patient care situations and employment opportunities in the profession are excellent. Positions are available for respiratory therapists in management, education, clinical specialization, and in research.

Average Salary: $34,000 – $45,500

Two educational levels of training in respiratory care:

A. Respiratory care technicians train for 12 – 18 months and are awarded a certificate. They are required to complete either a two-year associate degree or a four-year baccalaureate degree. However, the Committee on Accreditation of Respiratory Care has proposed that new Essentials (Standards) include a minimum of an associate degree in Respiratory Care at the entry level.

B. Baccalaureate programs are either four-year programs or the final two years of a "2 + 2" program. In the 2 + 2" program, prerequisite courses are completed at any accredited college of university. The professional courses leading to the Bachelor of Science in Respiratory Therapy (BSRT) are then pursued at the institution that confers the degree.

Upon graduation from an approved program, students must pass the examination administered by the National Board of Respiratory Care, Inc. to become certified. Program directors should be contacted for their current admission requirements.

Schools:

Alvin Community College Respiratory Therapy Program
http://www.alvincollege.edu/respiratory_care/default.htm

Amarillo College Respiratory Therapy Program
http://catalog.actx.edu/preview_program.php?catoid=7&poid=1191&returnto=221

Angelina College Respiratory Therapy Program
http://www.angelina.edu/health/respiratory_care.html

ATI Career Training Center Respiratory Therapy Program
http://www.aticareertraining.edu/programs/health-care-and-wellness/respiratory-therapy.htm

Cisco College Respiratory Therapy Program
http://www.cisco.edu/s/926/index.aspx?sid=926&gid=1&pgid=314

Collin College Respiratory Therapy Program
http://www.collin.edu/rcp/

Concorde Career College – Dallas Respiratory Therapy Program
http://www.concorde.edu/program/respiratory-therapy

Concorde Career Institute - San Antonio Respiratory Therapy Program
http://www.concorde.edu/program/respiratory-therapy

Del Mar College Respiratory Therapy Program
http://www.delmar.edu/rt/

El Centro College
http://www.elcentrocollege.edu/Program/Health/Respcare/

Houston Community College
http://coleman.hccs.edu/coleman/a-career-in-health-sciences/respiratory-therapist

Howard College
http://www.howardcollege.edu/index.php?option=com_content&view=article&id=173&Itemid=157

Lone Star College – Houston/Kingwood
http://www.lonestar.edu/respiratory-care.htm

McLennan Community College Respiratory Therapy Program
http://www.mclennan.edu/departments/hsp/rct/

Midland College Respiratory Therapy Program
http://www.midland.edu/academics/courses/respiratory.php

Midwestern State University Respiratory Therapy Program
http://hs2.mwsu.edu/respiratory/

San Jacinto College
http://www.sanjac.edu/sites/default/themeglobal/includes/print.php?prcode=3RESP

South Texas College
http://nah.southtexascollege.edu/respiratory/index.html

St. Philip's College
http://myspccatalog.alamo.edu/preview_program.php?catoid=73&poid=3900&returnto=2041

Tarrant County College
http://www.tccd.edu/Courses_and_Programs/Program_Offerings/Respiratory_Care.html

Temple College
http://www.templejc.edu/dept/Respiratory/Requirements.htm

Texas State University - San Marcos
http://www.health.txstate.edu/rc/

Tyler Junior College
http://lcmstarget.tjc.edu/RespiratoryCare/PDF/RespiratoryCareHandbook.pdf

University of Texas Medical Branch at Galveston
http://shp.utmb.edu/respiratory_care/

UT at Brownsville
http://www.utb.edu/vpaa/ucatalog/11-12/Documents/Degrees/AAS_RSCA.pdf

UT Health Science
http://www.uthscsa.edu/shp/rc/index.asp

Victoria College
http://www.victoriacollege.edu/respiratorycare

Weatherford College
http://www.wc.edu/programs/alliedhealth/respiratory/files/ResCareProgramInfo.pdf

SURGICAL TECHNOLOGIST

Surgical Technologists are also called surgical technicians or operating room technicians. Surgical Technicians assist in preparing operating rooms for surgery. Surgical Technicians are responsible for having surgical instruments, sterile bandages and linens, needed fluids, and other equipment ready for the operation. Surgical Technicians also assist doctors by handing them needed instruments during surgery and for counting sponges and needles before and after the operation. Surgical Technicians deliver specimens to hospital laboratories for analysis, and after operations they take patients to the recovery room.

Average Salary: $22,000 - $37,000

Educational Requirements:

A high school diploma or GED certificate is required. Many vocational and junior colleges offer programs in operating room technology. Programs vary between one and two years. Students receive training in medical terminology, anatomy, physiology, and sterilization methods. At the end of the training period students must pass an examination by the Association of Surgical Technologists to become certified.

Associated Affiliations:

Association of Surgical Technologists
http://www.ast.org/

American Association of Surgeon Assistants
http://www.surgicalassistant.org/

Surgical Technology Texas Schools:

Alamo Colleges: http://www.alamo.edu/district/registration/pdfs/degrees-certificates.pdf

Austin Community College: http://www.austincc.edu/cataloghtml/plans.php

Collin County Community College: http://www.collin.edu/academics/programs/index.html

Dallas County Community College:
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

Del Mar College: http://www.delmar.edu/academics/academicdepts.php

El Centro College: http://www.elcentrocollege.edu/Program/

El Paso Community College:
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Galveston College: http://www.gc.edu/gc/Health_Sciences.asp?SnID=807583250

Houston Community College System
http://www.hccs.edu/hcc/System%20Home/Departments/Academics/Degree%20Plans/pdf/1011/HealthMedicalSci1011Final.pdf

Howard College: http://www.howardcollege.edu/

Kilgore College: http://www.kilgore.edu/programs.asp

Kingwood College: http://www.lonestar.edu/dental-hygiene-dept.htm

Lamar State College – Port Arthur: http://www.lamarpa.edu/?url=/dept/ah/index.html

Lone Star College: http://lonestar.edu/programs-classes.htm

North Central Texas College:
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Paris Junior College: http://www.parisjc.edu/index.php/pjc/content-pjc/programs-of-study/

Saint Philip's College: http://www.alamo.edu/spc/acad/ahd/default.aspx

San Jacinto College: http://www.sanjac.edu/degrees-certificates

South Plains College: http://www.southplainscollege.edu/pos/pos-degrees-certificates.php

Tarrant County College: http://www.tccd.edu/Courses_and_Programs/Program_Offerings.html

Temple College: http://www.templejc.edu/dept/dept.htm

Texas State Technical College: http://harlingen.tstc.edu/Careers/HealthAndSciences.aspx

Tomball College: http://www.lonestar.edu/programs-classes.htm

Trinity Valley Community College:
http://www.tvcc.edu/communityservices/class_workforce.aspx

Tyler Junior College: http://www.tjc.edu/nhp/

Vernon College
http://www.vernoncollege.edu/uploadedFiles/VC/INSTRUCTIONAL_SERVICES/Course_Schedule_Advising/VC%20Programs-Areas%20of%20Study%2010-11.pdf

Wharton County Junior College:
http://www.wcjc.edu/admin_offices_n/Registrars_Office/Registration/1_Admission.asp

THERAPEUTIC RECREATION SPECIALIST

Therapeutic recreation specialists plan and implement leisure activities like arts and crafts, music, sports, games, dance, and field trips to help improve the functional skills of their patients. They start by assessing the client's needs and functional abilities in order to design an appropriate program. They assist people of all ages who are challenged by varying degrees of mental and social disabilities. Once a patient's needs are assessed, therapeutic recreation specialists work with them in goal-oriented programs and document their progress along the way. They observe the programs and activities closely in an effort to monitor the patient's progress. Motivation and creative programs are used to encourage behavioral changes, increase social skills, and improve coordination. Therapeutic recreation specialists may specialize in specific populations, such as pediatrics, adolescents, or geriatrics. They may also specialize in certain therapeutic activities, including art, dance, aquatics, and music. The ultimate goal for a therapeutic recreation specialist is to get the patient to overcome social, emotional, and environmental barriers so they can develop and maintain a fulfilling lifestyle. Individuals interested in recreation therapy should be creative, innovative, patient, and have good organizational and communication skills.

Work Environment:

Therapeutic recreation specialists work in employment settings such as hospitals, nursing homes, clinics, child and adult day care facilities, mental health agencies, rehabilitation centers, and federal and state agencies. They may act as therapists, counselors, educators, facilitators, or advocates in any number of different environments.

Salary:

Average Annual Salary: $33,200
Salary Range: $24,400 - $39,100

Professional Organizations:

American Therapeutic Recreation Association
http://www.atra-online.com/

National Council for Therapeutic Recreation Certification
http://www.nctrc.org/

High School Preparation:

Students interested in a career as a therapeutic recreation specialist should take high school courses in algebra, biology, psychology, sociology, health occupations/medical professions education, English, computer skills, physical education, and speech.

College Requirements:

Individuals entering a therapeutic recreation specialist program should have a high school diploma or the equivalent. A bachelor's degree in therapeutic recreation (or in recreation with an option in therapeutic recreation) is usually the requirement for hospital and clinical positions. An associate's degree may be sufficient for some nursing home positions. The National Council for Therapeutic Recreation Certification offers a certification examination to anyone who has completed the required educational prerequisites.

Career Outlook:

Employment opportunities for therapeutic recreation specialists are expected to grow steadily through the year 2012. There will be an increase of new job opportunities of nearly 10% over the next decade. The rapidly growing elderly population is expected to spur job growth. While hospitals and nursing homes are cutting back on their recreational therapy staff to conserve money, outpatient settings will see a tremendous increase in the number of trained personnel needed. Employment will grow in assisted living facilities, outpatient physical and psychiatric rehabilitation clinics, and facilities specializing in services for people with disabilities. Individuals with a bachelor's degree will have the best career opportunities.

Texas Schools:

Austin Community College
http://www.austincc.edu/huse/rect/

Southwest Texas State University
http://www.hhp.txstate.edu/Degree-Plans/Graduate/Master-of-Science-in-Recreation-.html

Texas State University – San Marcos:
http://www.hhp.txstate.edu/Degree-Plans/Undergraduate.html

University of North Texas
http://www.coe.unt.edu/Kinesiology-Health-Promotion-and-Recreation

ULTRASOUND TECHNICIAN

Ultrasound Technicians provide patient services in a variety of medical settings in which the physician is responsible for the use and interpretation of ultrasound procedures. The medical sonographer is able to obtain ultrasound images by the use of equipment that sends high-frequency sound waves into areas of the patient's body, which then creates reflected echoes collected to form an image on a screen. A physician then interprets this diagnostic data in the form of an image.

Average Salary

$52,500 - $58,000

Educational Requirements

People interested in becoming an ultrasound technician should have a high school diploma or an equivalent. There are one, two, and four year programs depending on the degree awarded.

Associated Affiliations

Society of Diagnostic Medical Sonographers
http://www.sdms.org/

Texas Schools:

Alvin Community College: http://www.alvincollege.edu/dcvs/default.htm

Austin Community College: http://www.austincc.edu/health/sono/

Del Mar College: http://www.delmar.edu/dmsp/

El Centro College: http://www.elcentrocollege.edu/program/health/dms/

El Paso Community College:
http://www.epcc.edu/InstructionalPrograms/Pages/DiagnosticMedicalSonography.aspx

Houston Community College System:
http://coleman.hccs.edu/portal/site/coleman/menuitem.cd28cc331ea36ea9759b8e10507401ca/?vgnextoid=638aef11808e9110VgnVCM2000001b4710acRCRD&vgnextfmt=default

Lamar Institute of Technology: http://www.lit.edu/depts/allied/programs/dms.aspx

Lone Star College System: http://www.lonestar.edu/diagnostic-medical-sonography.htm

Midland College: http://www.midland.edu/academics/courses/diagsono.php

St. Phillips College: http://www.alamo.edu/spc/acad/ahd/sono/sonoprogram.aspx

Texas Southmost College: http://www.utb.edu/vpaa/cbshp/ah/dms/Pages/default.aspx

The Academy of Health Care Professions:
http://www.ahcp.edu/program-diagnostic-medical-ultrasound.php

Tyler Junior College: http://www.tjc.edu/dms/

VETERINARIAN

There are a limited number of accredited veterinary medicine programs in the United States. You will find 22 accredited colleges/schools of veterinary medicine at the end of this section. There is only one College of Veterinary Medicine in the state of Texas and that college is located at Texas A&M University in College Station, Texas. The information provided focuses on Texas A&M's College of Veterinary Medicine. Because it is the only one of its kind in Texas, the College of Veterinary Medicine admits mostly Texas residents.

Texas A&M College of Veterinary Medicine:

The minimal subject requirements for enrollment are 64 semester hours of acceptable college or university credit that must include those courses listed below:

COURSE	SEMESTER HOURS
Animal Nutrition	3
Biochemistry	3
Biology *	
Introductory with lab	4
Microbiology with lab	4
Genetics	3
Chemistry *	
General or Inorganic with lab	8
Organic with lab	4
Physics with lab *	8
Mathematics	
Calculus or Statistics	3
English	
Composition & Rhetoric	3
Literature	3
Technical Writing	3
Speech	3
TOTAL	52

* Courses as required for science majors.

* Note: These prerequisites can change without notice so check with your college or university's health professions advisor or the College of Veterinary Medicine at Texas A&M University by calling (800) 874-9591.

In addition to the 52 semester hours required and listed above, the prospective applicant must complete a minimum of 12 additional hours of their choice. With this 64 semester hours of acceptable college or university credit and acceptance to the College of Veterinary Medicine, the

Texas A&M University's College of Veterinary Medicine will award a BS degree in Veterinary Science after completion of one year of the professional curriculum. To be eligible for this degree, students must complete the core curriculum requirements for a baccalaureate degree at Texas A&M University. If a student wishes to take pre-professional courses at any accredited institution of higher education, the course must be equivalent in subject content and credits to its counterpart at Texas A&M University.

If a student wishes to apply to the College of Veterinary Medicine, Texas A&M University uses two separate on-line application services and applications must select the appropriate service depending upon their residency status. All Texas residents must apply through the Texas Medical and Dental Schools Application Service at https://dpweb1/dp.utexas.edu/nlogon/mdac/tamvet.wb.

All non-Texas residents wishing to apply must apply through the Veterinary Medical Application Service (VMCAS) at http://www.aavmc.org.

All applicants will be required to complete a Supplemental Application, found at https://www.cum.tamu.edu/suppapp/. The deadline for submitting a completed application, transcripts, and evaluations is October 1, of the year prior to that in which admission is sought. The applicant must request an official transcript to be sent from each college or university attended. In addition, each applicant must take the Graduate Record Exam (GRE) and must submit the scores directly to Texas A&M College of Veterinary Medicine. The professional curriculum in veterinary medicine is a four-year program. Enrollment in the first year class of the professional veterinary medical curriculum is limited by facilities to a definite number each year.

For the remaining 26 accredited colleges of veterinary medicine in the United States, admission requirements, as well as other information, can be changed without notice. For accurate, up to date admission requirements can be obtained by contacting the individual veterinary colleges listed at the end of this section. You can find a compilation of admission requirements for all the colleges of veterinary medicine in the current addition (revised annually) of Veterinary Medical School Admission Requirements in the US and Canada, published by Betz Publishing Company, Inc., PO Box 34631, Bethesda, MD 20827.

Colleges of Veterinary Medicine:

Auburn University: http://www.vetmed.auburn.edu/

Colorado State University: http://www.cvmbs.colostate.edu/ns/

Cornell University: http://www.vet.cornell.edu/

Iowa State University: http://vetmed.iastate.edu/

Kansas State University: http://www.vet.k-state.edu/

Louisiana State University: http://www1.vetmed.lsu.edu/svm/

Michigan State University: http://cvm.msu.edu/

Mississippi State University: http://www.cvm.msstate.edu/

North Carolina State University: http://www.cvm.ncsu.edu/

Ohio State University: http://vet.osu.edu/

Oklahoma State University: http://www.cvm.okstate.edu/

Oregon State University: http://oregonstate.edu/vetmed/

Purdue University: http://www.vet.purdue.edu/

Texas A&M University: http://vetmed.tamu.edu/

Tuskegee University:
http://www.tuskegee.edu/academics/colleges/cvmnah/school_of_veterinary_medicine.aspx

Tufts University: http://www.tufts.edu/vet/

University of California: http://www.vetmed.ucdavis.edu/

University of Florida: http://www.vetmed.ufl.edu/

University of Georgia: http://www.vet.uga.edu/

University of Illinois: http://vetmed.illinois.edu/

University of Missouri: http://vetmed.missouri.edu/

University of Tennessee: http://www.vet.utk.edu/

VETERINARY TECHNICIAN

Veterinary technicians are employed by veterinarians and help them provide basic medical care to animals. They perform support duties such as feeding, walking, cleaning, and comforting the animals. Technicians are usually in charge of taking the animals into treatment rooms and securing restraints or holding the animal during treatment. Under the supervision of a veterinarian, they may also perform laboratory tests, take vital signs, take and develop X-rays, change bandages, give injections, clean an animal's teeth, or bathe and groom the animal. Technicians are often in charge of maintaining records of each animal's reaction to medications and treatments. They are sometimes called upon to prepare animals for surgery in addition to sterilizing the surgical equipment.

Veterinary technicians may specialize in certain areas such as lab animal technician or biotechnology technician. They usually work a 40-hour week that may include evenings or weekends. They may also be on-call for emergencies. Individuals interested in this health care specialty should enjoy working with animals, be compassionate and understanding, and be able to handle hectic schedules.

Work Environment:

Many veterinary technicians are employed by veterinarians in private practice while others are employed by veterinary hospitals, kennels, research institutes, zoos, research laboratories, and veterinary schools. Technicians may supervise other veterinary personnel such as veterinary assistants.

Average Salary: $17,700 - $26,900

Professional Organizations:

American Veterinary Medical Association
http://www.avma.org/

North American Veterinary Technician Association
http://www.navta.net/

High School Preparation:

Students interested in veterinary technology should take high school courses in biology, chemistry, English, dental/medical assisting, algebra, health occupations/medical professions education, social studies, computer skills, and geometry.

College Requirements:

Individuals interested in a career as a veterinary technician must have a high school diploma or the equivalent. They must then complete an associate's degree program accredited by

the American Veterinary Medical Association. Students interested in veterinary technology should contact schools for information on admission and course of study.

Career Outlook

Employment opportunities for veterinary technicians will be excellent over the next decade and are expected to increase much faster than the average of all other occupations over the same period. The U.S. Department of Labor expects a growth of over 36% in the number of job openings through the year 2012. Growth will continue as pet owners become more aware of advanced care, such as preventative dental care and intensive care, and are more willing to take advantage of such nontraditional services. Employment opportunities will be the greatest for individuals that obtain certification by state or national organizations.

Texas Schools:

Amarillo College: http://catalog.actx.edu/content.php?catoid=10&navoid=349

Cedar Valley College:
http://www.cedarvalleycollege.edu/FutureStudents/DegreesandCertificatePrograms/default.aspx

Central Texas College: http://www.ctcd.edu/nursing/index.htm

Dallas County Community College
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

Laredo Community College:
http://www.laredo.edu/cms/LCC/Instruction/Degrees_and_Certificates/

Lone Star College: http://lonestar.edu/programs-classes.htm

Midland College: http://www.midland.edu/students/academics/allprograms.php

Texas A&M University:
http://admissions.tamu.edu/freshmen/whyaggieland/UniquePrograms/colleges/

Victoria College: http://www.victoriacollege.edu/healthcareers

X-RAY/RADIOLOGY TECHNICIAN

The X-ray Technician program prepares students with the knowledge, technical skills, and work habits required for an entry-level position in this growing field. The curriculum emphasizes the development of effective techniques that provide protection for the patient and technician and prepares graduates to take the state examination in Limited Permit Radiological Technology for state licensure. Additionally, the program provides back office medical assisting training with preparation for certification in order to increase job opportunities.

Graduates of these programs may work in a physician's offices, chiropractic offices, clinics, or hospitals. Jobs are also available in private medical practice, industry, and government service. Duties may include chest, extremity, and torso-skeletal x-ray procedures and a variety of back office/medical assisting.

Radiology Technicians use x-ray machines, ultrasound machines, magnetic resonance scanners, positron emission scanners, and other technologically advanced machines to help diagnose and treat illnesses and injuries under the direction of a physician. They are responsible for explaining and getting patients ready for radiological tests and treatment that will be performed. They place the equipment at the right distance and right angle from the patient to make the appropriate images for the physician. Radiographers also assist physicians in performing sophisticated procedures. It is their responsibility to ensure that the radiology equipment is properly maintained.

Average Salary: $30,000 - $48,500

Educational Requirements:

Students interested in becoming an X-Ray Tech should have a high school diploma or an equivalent. To become a registered radiology technician, students must complete a two-year training program in a hospital or school. A high school diploma or GED certificate is required for entry into these programs.

Associated Affiliations:

American Society of Radiologic Technologists
https://www.asrt.org/

Radiological Society of North America
http://www.rsna.org/

Radiologic Technology (X-Ray) Schools

Amarillo College: http://catalog.actx.edu/content.php?catoid=10&navoid=349

Angelina College: http://www.angelina.edu/interest/index.html

Austin Community College: http://www.austincc.edu/cataloghtml/plans.php

Brookhaven College: http://www.brookhavencollege.edu/instruction/h-h-services/#hp

Coastal Bend College:
http://vct.coastalbend.edu/content/index.cfm/fa/viewpage/category_id/702.htm

Dallas County Community College:
http://www.dcccd.edu/Current%20Students/Courses%20and%20Programs/Programs/Pages/default.aspx

Del Mar College: http://www.delmar.edu/academics/academicdepts.php

El Centro College: http://www.elcentrocollege.edu/Program/

El Paso Community College:
http://www.epcc.edu/Catalog/Health_Occupations_AAS/Forms/AllItems.aspx

Galveston College: http://www.gc.edu/gc/Health_Sciences.asp?SnID=807583250

Grayson County College: http://www.grayson.edu/website/Programs/programsAvailable.aspx

Houston Community College System
http://www.hccs.edu/hcc/System%20Home/Departments/Academics/Degree%20Plans/pdf/1011/HealthMedicalSci1011Final.pdf

Howard College: http://www.howardcollege.edu/

Kilgore College: http://www.kilgore.edu/programs.asp

Kingwood College: http://www.lonestar.edu/dental-hygiene-dept.htm

Lamar Institute of Technology: http://www.lit.edu/depts/allied/default.aspx

Lon Morris College: http://www.beabearcat.com/academics.php

Lone Star College: http://lonestar.edu/programs-classes.htm

Midland College: http://www.midland.edu/students/academics/allprograms.php

North Central Texas College:
http://www.nctc.edu/What_We_Teach/whatsoffered.html#vocational

Northeast Texas Community College
http://www.ntcc.edu/index.php?module=Pagesetter&func=viewpub&tid=73&pid=3

Odessa College: http://www.odessa.edu/dept/

Paris Junior College: http://www.parisjc.edu/index.php/pjc/content-pjc/programs-of-study/

Saint Philip's College: http://www.alamo.edu/spc/acad/ahd/default.aspx

San Antonio College: http://www.alamo.edu/sac/alldhlth/default.htm

San Jacinto College: http://www.sanjac.edu/degrees-certificates

South Texas College
http://academicaffairs.southtexascollege.edu/degreeplans/associates.html

Southwest Texas Junior College:
http://www.swtjc.net/programs/workforce-training/nurse-aide-training.aspx

Tarrant County College: http://www.tccd.edu/Courses_and_Programs/Program_Offerings.html

Temple College: http://www.templejc.edu/dept/dept.htm

Texas Southmost College: http://www.utb.edu/vpaa/ucatalog/10-11/Pages/AtoZ.aspx

Tomball College: http://www.lonestar.edu/programs-classes.htm

Tyler Junior College: http://www.tjc.edu/nhp/

Weatherford College: http://www.wc.edu/programs-of-study/health-professions

Wharton County Junior College:
http://www.wcjc.edu/admin_offices_n/Registrars_Office/Registration/1_Admission.asp

Environmental Science

Environmental scientists look at pollution and other environmental problems and come up with solutions. They figure out what is in the air, water, and soil to make sure that the environment is safe. They also give advice on how to clean the environment, for example, they might design a safe way to get rid of trash.

Some of these workers mix environmental science with other sciences, such as chemistry or biology. Environmental chemists find out if different chemicals hurt the environment; environmental biologists focus on protecting animals and plants; environmental scientists help to make laws about protecting the environment and help companies follow the laws.

Environmental scientists work in laboratories and offices. They also work outside, taking measurements and use math and computers and they sometimes work long hours. Some must travel to work in the field, might dig dirt, chip rocks, or do other physical things. Scientists who look for oil often work in foreign countries and in addition to doing science, many of these workers write reports and help find money for their projects.

All of these workers need a college degree, and most need a graduate degree. In college, they study geography, environmental science, chemistry, biology, earth science, physics, math and statistics so that they can understand measurements/data, and to make laws about protecting the environment also take law classes.

In addition to taking classes, scientists have to learn how to work with other people and need to practice speaking and writing so that they will be able to explain their research. Workers also need computer skills and need to know about the latest tools and technology for studying the earth.

Students can start getting ready by taking science, math, and computer classes, read books about rocks, the earth, and the environment.

In May 2008, the average yearly wages of environmental scientists were $65,280. Environmental scientists held about 85,900 jobs in 2008. Many worked for governments. Others worked for science and engineering companies, oil and gas companies, and other places. Some had their own businesses. The number of jobs for environmental scientists is expected to grow much faster than the average for all occupations through 2018. As population grows, it takes more work to keep the environment clean. Also, more people are becoming aware of environmental problems and want to fix them. Businesses and governments will also hire scientists to make sure they are following stricter environmental laws.

Texas Schools:

Abilene Christian University: http://www.acu.edu/academics/cas/agenv/index.html

Baylor University: www.baylor.edu/environmentalscience/

Lamar University: http://ess.lamar.edu/

Rice University: www.ruf.rice.edu/~cses/education/es.html

Southern Methodist University: http://smu.edu/esp/

Stephen F. Austin State University - SFA: http://environmental.sfasu.edu/

Tarleton State University: http://www.tarleton.edu/environmentalscience/index.html

Texas Christian University: http://www.ensc.tcu.edu/

University of Houston Clear Lake:
http://prtl.uhcl.edu/portal/page/portal/SCE/Natural_Sciences/Environ_Sciences

University Of Houston: http://www.nsm.uh.edu/

University of North Texas:
http://www.ias.unt.edu/documents-and-files/3.Env%20Sci%20degrees%20.pdf

University of Texas Arlington: http://www.uta.edu/ese/index.htm

University of Texas at Austin: http://www.esi.utexas.edu/index.html

University of Texas at Brownsville and Texas Southmost College:
http://www.utb.edu/vpaa/csmt/chemeny/Pages/default.aspx

University of Texas at El Paso:
http://academics.utep.edu/Default.aspx?alias=academics.utep.edu/esprog

University of Texas Health Science Center – Houston:
http://www.uthouston.edu/safety/

University of Texas of the Permian Basin:
http://cas.utpb.edu/academic-departments/physical-sciences-department/earth-sciences-program/greetings/

University of the Incarnate Word: http://www.uiw.edu/envsci/

Nuclear Medicine Technology

Nuclear Medicine technologists work in a clinical field of medicine concerned with the diagnostic and therapeutic use of radioactive materials in the treatment of a wide variety of diseases and disorders.

The Nuclear Medicine technologists perform varied procedures under the supervision of a physician. They are trained in the use and control of radioactive pharmaceutical agents, the safe administration of these agents to patients, the application of research techniques to Nuclear Medicine, and the performance of administrative procedures necessary to maintain appropriate records. Technologists function in a number of different roles related to the treatment of patients and the diagnosis of diseases. During imaging procedures, for example, the Nuclear Medicine technologist is concerned with the patient's safety and comfort, as well as the technical aspects of the procedure. In addition, the technologist applies his or her training in medical science and technology in order to accurately perform and record diagnostic procedures.

To be eligible for admission the applicant must be a graduate of an accredited high school or hold a General Education Development Certificate. Applicants must submit an official application, arrange for official transcripts to be sent and complete an interview with the Director of the program. Upon successful completion of all academic and clinical requirements for the associate degree programs, the student is awarded the Associate in Applied Science degree. Then the graduate is eligible to apply for certificate and/or licensure.

Nuclear medicine technologists operate cameras that detect and map the radioactive drug in a patient's body to create diagnostic images. After explaining test procedures to patients, technologists prepare a dosage of the radiopharmaceutical and administer it by mouth, injection, inhalation, or other means. They position patients and start a gamma scintillation camera, or "scanner," which creates images of the distribution of a radiopharmaceutical as it localizes in and emits signals from the patient's body. The images are produced on a computer screen or on film for a physician to interpret.

When preparing radiopharmaceuticals, technologists adhere to safety standards that keep the chance of radiation exposure as low as possible to workers and patients. Technologists keep patient records and document the amount and type of radionuclides that they receive, use, and discard.

Work environment

Physical stamina is important because nuclear medicine technologists are on their feet much of the day and may have to lift or turn disabled patients. In addition, technologists must operate complicated equipment that requires mechanical ability and manual dexterity.

Although the potential for radiation exposure exists in this field, it is minimized by the use of shielded syringes, gloves, and other protective devices and by adherence to strict radiation safety guidelines. The amount of radiation in a nuclear medicine procedure is comparable to that received during a diagnostic x ray procedure. Technologists also wear badges that measure

radiation levels. Because of safety precautions, badge measurements rarely exceed established safety levels.

Nuclear medicine technologists generally work a 40-hour week. Some technologists also may have on-call hours, including evening or weekend hours, in departments that operate on an extended schedule. Opportunities for part-time and shift work also are available. Those employed by mobile imaging services may be required to travel to several locations.

Education and Training

Generally, certificate programs are offered in hospitals, associate degree programs in community colleges, and bachelor's degree programs in 4-year colleges and universities. Courses cover the physical sciences, biological effects of radiation exposure, radiation protection and procedures, the use of radiopharmaceuticals, imaging techniques, and computer applications.

One-year certificate programs are typically for health professionals who already possess an associate or bachelor’s degree—especially radiologic technologists and diagnostic medical sonographers—but who wish to specialize in nuclear medicine. The programs also attract medical technologists, registered nurses, and others who wish to change fields or specialize.

The Joint Review Committee on Education Programs in Nuclear Medicine Technology accredits associate and bachelor’s degree training programs in nuclear medicine technology. In 2008, there were more than 100 accredited programs available.

Licensure

Requirements for licensure of nuclear medicine technologists vary from State to State, so it is important that aspiring technologists check the requirements of the State in which they plan to work. In 2008, 25 States licensed nuclear medicine technologists. In addition, many third-party payers require nuclear medicine technologists to be certified in order for the healthcare facility to receive reimbursement for imaging procedures.

Certification

Certification is voluntary but it has become the generally accepted standard for nuclear medicine technologists and those who employ them. Certification is available from the American Registry of Radiologic Technologists (ARRT) and from the Nuclear Medicine Technology Certification Board (NMTCB). Some technologists receive certification from both agencies. ARRT and NMTCB have different eligibility requirements, but both require that workers pass a comprehensive exam to become certified.

In addition to the general certification requirements, certified technologists also must complete a certain number of continuing education hours to retain certification. Continuing education is required primarily because of the frequent technological and innovative changes in the field of nuclear medicine.

Technologists must have good communication skills to effectively interact with patients and their families and should be sensitive to patients' physical and psychological needs. Nuclear medicine technologists must be able to work independently as they may have little direct supervision.

They also need to be detailed-oriented and meticulous when performing procedures to assure that all regulations are being followed.

Employment

Employment of nuclear medicine technologists is expected to increase by 14 percent from 2010 to 2018, faster than the average for all occupations. Growth will arise from technological advancement, the development of new nuclear medicine treatments, and an increase in the number of middle-aged and elderly persons, who are the primary users of diagnostic and treatment procedures.

Technological innovations may increase the diagnostic uses of nuclear medicine. New nuclear medical imaging technologies, including PET and single photon emission computed tomography (SPECT), are expected to be used increasingly. Cost considerations will affect the speed with which these new applications of nuclear medicine grow. Healthcare facilities contemplating these procedures will have to consider equipment costs, reimbursement policies, and the number of potential users. Although these new imaging technologies will be used more often, they will likely replace older technologies, not supplement them. Thus, only a small amount of job growth will stem from the adoption of new technologies. Also, in spite of growth in nuclear medicine, the number of openings into the occupation each year will be relatively low.

Texas Schools:

Amarillo College in Amarillo: http://www.actx.edu/nuclear_med/

Baylor College of Medicine: http://www.bcm.edu/gme/?PMID=4814

Del Mar College: http://www.delmar.edu/nmt/

Houston Community College:
http://coleman.hccs.edu/portal/site/coleman/menuitem.cd28cc331ea36ea9759b8e10507401ca/?vgnextoid=fb0bef11808e9110VgnVCM2000001b4710acRCRD&vgnextfmt=default

University of the Incarnate Word:
http://www.uiw.edu/home/academics/programs/nuclearmedicineprograminformation.html

Galveston College in Galveston:
http://www.gc.edu/gc/Nuclear_Medicine_Technology_AAS.asp?SnID=2