

HEALTHCARE SCIENCES

Physical & Occupational Therapy, Cytotechnology, Dental Hygiene,
Health Information Management, Clinical Laboratory Science, Nuclear Medicine Technology

What can I do with these majors?

AREAS

EMPLOYERS

STRATEGIES/INFORMATION

PHYSICAL THERAPY

Physical therapy involves treatment through physical means for people disabled by illness, accident, or congenital handicap. Physical therapy seeks to improve mobility, relieve pain, or minimize permanent physical disabilities.

Clinical Practice:

- Acute care
- Neuro-rehab
- Out-patient

Management

Education

Research

Consultation

Specialties Include:

- Pediatrics
- Geriatrics
- Sports Medicine
- Orthopedics
- Neurology
- Cardiopulmonary

Hospitals
Clinics
Home healthcare agencies
Nursing homes
Sports medicine facilities
Rehabilitation centers
Physician offices, particularly orthopedic
Schools
Group or private practices
Universities and colleges
Federal and state government:
Armed Forces
Public Health Service
Veterans Administration

Earn a doctorate (DPT) or master's degree (MPT, MSPT) in physical therapy from a program accredited by the American Physical Therapy Association. The field is moving toward the DPT as the standard degree by 2015.
Programs include supervised clinical experiences. All states require licensure which includes passing an examination.
One third of physical therapists work in hospitals and one quarter are employed in physical therapy offices.
Attain superior grades in pre-physical therapy course work due to intense competition for admittance to physical therapy programs.
Obtain knowledge of several basic sciences including anatomy, physiology, biology, chemistry, and physics.
Volunteer for a physical therapist in a hospital or clinic to gain experience and improve chances of acceptance into a program. Many programs require volunteer experiences and a good understanding of the field for admission.
Develop strong interpersonal and communication skills. Must possess patience and a desire to help individuals of all ages with disabilities. A positive attitude is important when working with patients.
Manual dexterity and physical stamina are important in succeeding in physical therapy work.
Some physical therapists specialize in an area after gaining several years of general experience.

AREAS

OCCUPATIONAL THERAPY

Occupational therapy is the treatment of people who are unable to function independently due to an injury, illness, or disability. Occupational therapists utilize activities with specific goals to enhance the quality of life and increase the independence of individuals who have a mentally, emotionally, or physically disabling condition.

Screening

Evaluation

Treatment:

Physical

Psychosocial

Social

Vocational

Follow-up

Administration

Teaching

Research

EMPLOYERS

Hospitals (including psychiatric and rehabilitative)

Schools

Group or private practice

Nursing homes

Community mental health centers

Adult daycare programs

Job training centers

Residential care providers

Out-patient rehabilitation facilities

Home healthcare agencies

Federal and state government:

Armed Forces

Public Health Service

Veterans Administration

Universities and colleges

STRATEGIES/INFORMATION

Earn a master's (MOT, MA, MS) or doctoral (OTD, less common) degree in occupational therapy to gain entry in the field.

All states regulate O.T. licensure. Requirements include passing a certification exam given by the American Occupational Therapy Certification Board and a supervised clinical internship.

Those who have passed the exam become Occupational Therapists Registered (OTR).

Doctoral degree is often preferred for university teaching and administrative positions.

Occupational therapists may choose to specialize in a particular age group or type of disability.

Build a solid foundation in physical, biological, and behavioral sciences.

Develop excellent communication skills which are important when interacting with patients and their families.

Volunteer in an occupational therapy or related healthcare setting to experience the field first-hand and improve chances of program admittance.

Individuals working in occupational therapy should possess patience and a true interest in helping people with disabilities reach their full potential.

Learn to work well within a team. O.T.'s work with many other professionals, including physicians, physical therapists, and social workers in the rehabilitation of patients.

AREAS

CYTOTECHNOLOGY

Cytotechnologists are highly skilled laboratory professionals who study the patterns of disease progression found in human cells. They detect subtle changes and clues within cells. With expert eyes, the cytotechnologist looks for the smallest abnormalities in color, shape, and size that may indicate clinically significant conditions. This profession provides the potential to help save lives by discovering disease early and uncovering information that informs effective treatment.

Screening and Diagnosis:

- Cancer
- Pre-cancerous abnormalities
- Benign tumors or growths
- Infectious organisms and inflammatory conditions

Evaluation of Tissue:

- Bladder
- Body cavities
- Bone and soft tissue
- Breast
- Central nervous system
- Female reproductive tract
- Gastrointestinal tract
- Liver
- Lung
- Lymph nodes
- Pancreas
- Salivary glands
- Thyroid

Technological Equipment Operation:

- Light microscopes
- Biomedical instrumentation
- Laboratory information systems

Molecular Diagnostic Testing

EMPLOYERS

Hospital and private laboratories
Federal and state government laboratories
Clinics and university medical centers
Public health facilities
Research and biotechnology industry
Healthcare administrative departments
Educational institutions

STRATEGIES/INFORMATION

Earn a Bachelor or Master of Science in Cytotechnology from a program accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Prepare for and pass the certification examination given by the Board of Registry of the American Society of Clinical Pathologists.

Supplement curriculum with courses in biology that emphasize body structure, development, tissue organization, and function. Recommended courses include histology, cellular biology, and genetics. Additional recommended course work may include other biological sciences such as zoology or ecology.

Become familiar with applied learning techniques. Most programs utilize a combination of training activities such as microscopic evaluation, laboratory skills development, case presentations, research, community health projects, and supervised clinical laboratory site experiences.

Develop problem solving as well as effective written and verbal communication skills.

Display personal characteristics such as accuracy, responsibility, and motivation. Become comfortable making important decisions.

Plan to learn new technology and techniques to stay abreast of developments in the field.

AREAS

EMPLOYERS

STRATEGIES/INFORMATION

DENTAL HYGIENE

Dental hygienists help people of all ages maintain optimal oral health by working with dentists to prevent and treat tooth decay, periodontal disease, oral cancer, and other conditions that affect oral function.

Specific areas of activity for dental hygienists include:

- Gathering data for a dental diagnosis
- Recording medical and dental histories
- Screening and charting oral structures and conditions
- Exposing and processing oral radiographs
- Dietary analysis
- Providing oral disease prevention information and instruction
- Monitoring oral health status of individuals
- Providing therapeutic services
- Removing calculus and plaque from the teeth
- Applying fluoride and dental sealants to the

Private dental offices and dental clinics
Federal, state, and local health departments or associated institutions
Hospitals and nursing homes
School districts or departments of education
Private business/industry
Correctional facilities
Private and public centers for pediatric, geriatric, and other individuals or groups with special needs
Managed care organizations

Associate's or bachelor's degree is required to enter the field in nearly all states.
A passing score on the Dental Hygiene National Board Examination and state or regional clinical examination is also required for licensure, RDH (Registered Dental Hygienist).
A master's degree in dental hygiene is available at some institutions.
The scope of practice for dental hygienists is determined by individual states.
Opportunities for practice are available throughout the world, particularly with the military, the US government, and US owned corporations.
Dental hygienists with bachelor's or master's degrees may work in teaching, research or administrative positions.

HEALTH INFORMATION MANAGEMENT

HIM professionals play critical roles in maintaining, collecting, and analyzing the data that doctors, nurses, and other healthcare providers rely on in the delivery of quality health-care.

Patient Health Information Management
Medical Records Administration
Computer Information Systems Management
Diagnosis and Procedure Coding
Personnel and Budget Administration
Quality Management and Improvement
Risk Management
Utilization Review
Research

Physician offices and clinics
Long-term care facilities
Insurance companies
Government agencies
Home care providers
Behavioral health facilities
Information systems vendors
Rehabilitation centers
Pharmaceutical companies
Hospitals
Research facilities

Earn a bachelor's degree in Health Information Management from a program accredited by the American Health Information Management Association.
A passing score on a national examination is required for certification as a Registered Health Information Administrator (RHIA).
Visit a health information management department in a hospital to better understand the role of health information managers.
Develop strong oral and written communication skills, interpersonal skills, orientation to detail, flexibility, and basic computer skills in word processing, spreadsheets, and databases.

AREAS

CLINICAL LABORATORY SCIENCE

Clinical laboratory scientists, also known as medical technologists, work together with other members of the healthcare team to perform and supervise laboratory analyses on blood, body fluids, and tissue. They also provide data to detect, diagnose, and monitor disease. Medical technologists use medical equipment such as microscopes, computers, and other highly technical instruments to assist them in their work.

Hematology
Immunohematology (Blood Banking)
Microbiology
Clinical Chemistry
Immunology
Urinalysis
Mycology
Parasitology
Histocompatibility
Molecular Diagnostics
Laboratory product development and sales

EMPLOYERS

Hospital and private laboratories
Biotechnology industry
Research and forensic laboratories
Public health laboratories
Universities and colleges
Pharmaceutical companies
Armed forces

STRATEGIES/INFORMATION

Earn a bachelor's degree in medical technology from a program accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

Be prepared to participate in supervised clinical experiences.

Many states require a license to practice. Obtain licensure by passing a certification exam given by the National Certification Agency for Clinical Laboratory Sciences (NCA) or the American Society for Clinical Pathology Board of Registry (ASCP).

Attain good grades in pre-medical technology course work, including biology, anatomy, physiology, and general and organic chemistry.

Develop manual dexterity, fine motor skills, and an attention to detail. Be willing to work in a fast-paced environment.

Visit a clinical laboratory. Talk with practitioners to gain critical knowledge of the profession.

AREAS

NUCLEAR MEDICINE TECHNOLOGY

Nuclear medicine is a highly specialized field that involves preparing and administering radioactive chemical compounds (radiopharmaceuticals) and performing imaging procedures using radiation-detecting equipment. Nuclear Medicine Technologists process data and provide images, analysis, and patient information to physicians who make diagnoses.

Diagnosis and Treatment (some applications):

- Neurology
- Oncology
- Orthopedic
- Renal
- Cardiac
- Pulmonary

Specialties:

- Nuclear cardiology
- Positron emission tomography (PET)

Clinical Research

Education

Administration

Training

Sales

EMPLOYERS

- Community hospitals
- Teaching hospitals
- Medical centers
- Public health institutions
- Research institutes
- Outpatient imaging facilities
- Medical and diagnostic laboratories
- Physician offices
- Private clinics
- Commercial radiopharmaceutical suppliers
- Nuclear imaging equipment manufacturers

STRATEGIES/INFORMATION

Secure a strong foundation in science and mathematics, along with interests in computer technology and medicine.

Develop strong interpersonal skills, as nuclear medicine technologists work directly with patients interviewing and providing instruction.

Conduct informational interviews or shadowing experiences with professionals, and plan to tour nuclear medicine facilities to confirm interest in the field.

Seek volunteer experience in a clinical setting, nuclear medicine if possible.

Earn a degree from a program accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT).

Seek certification through one of two national accrediting agencies: Nuclear Medicine Technology Certification Board (NMTCB) or The American Registry of Radiologic Technologists (ARRT); certification requirements vary by state and employer.

Consider specializing further in nuclear cardiology or positron emission tomography (PET).

Approximately two-thirds of Nuclear Medicine Technologists work in hospitals. Professionals may be on call in some hospital settings.

Part-time or shift work may be available.