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
- Cardiopulminary

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 master's degree (MPT, MSPT, MS) or doctorate (DPT) in physical therapy from a program accredited by the American Physical Therapy Association. Programs include supervised clinical experiences. The field is moving toward the DPT as the standard degree by 2020.

Obtain a doctoral degree for teaching and research positions.

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.

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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

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

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.

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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

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

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.

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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 healthcare.** 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.

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

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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

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

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.

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