

# HEALTH PROFESSIONS AND PRELAW CENTER

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## HEALTH PROFESSIONS DESCRIPTIONS 2011

This document is designed to assist current and prospective IU Bloomington students who are interested in exploring majors, certificates and professional programs in the health fields. It is not meant to be a comprehensive list of health fields and we encourage interested students to explore various websites, such as:

- IU Bloomington's list of majors and programs (<http://www.iub.edu/majors/>);
- *University Division's Majors & Careers Series* (<http://www.indiana.edu/%7Eudiv/majors/>);
- professional websites of interest (e.g. *American Medical Association*, <http://www.ama-assn.org/ama/pub/category/13087.html> and <http://www.ama-assn.org/ama/pub/category/3584.html>);
- the *Bureau of Labor Statistics Occupational Outlook Handbook* provides detailed information about all occupations (<http://www.bls.gov/oco/home.htm>); and
- the *Health Professions and Prelaw Center (HPPLC)* website ([www.hpplc.indiana.edu](http://www.hpplc.indiana.edu)).

**Note:** If an asterisk (\*) appears next to a health-related degree, certificate or professional program, it indicates areas in which HPPLC advisors specialize. Visit the HPPLC website for detailed information about preparing for admission to these programs.

### Undergraduate Degrees and Certificates completed at IU Bloomington

The undergraduate degrees and certificates listed below include many (but not all) IU Bloomington majors related to health. See <http://www.iub.edu/> for more info.

**Athletic Training:** Athletic trainers are health professionals who focus on prevention, recognition, evaluation and immediate care of injuries for people of all ages, from professional athletes to industrial workers. They work under the supervision of a licensed physician as part of a health care team and often have administrative responsibilities. Athletic trainers should not be confused with fitness trainers or personal trainers, who train people to become physically fit (see entry for *Fitness Specialist*). The School of Health, Physical Education and Recreation's Department of Kinesiology offers this Bachelor of Science degree (<http://www.indiana.edu/~kines/>).

**Audiology:** Audiologists evaluate, assess and determine a course of treatment for people who have hearing, balance and related ear problems. They interpret results of specialized tests and may coordinate them with medical, educational and psychological information to make a diagnosis and determine a course of treatment. Audiologists may work in private practice, in clinics, or with educators and other healthcare providers. Some audiologists specialize in working with children, the elderly or special cases. The Speech and Hearing Sciences department in the College of Arts and Sciences offers a pre-professional major with a concentration in Audiology and Hearing (<http://www.indiana.edu/~sphs/UG.html>).

**Dietetics:** Dietetics is the science of applying food and nutrition to health. Dietitians plan food and nutrition programs and supervise the preparation and serving of meals. They help prevent and treat illnesses by promoting healthy eating habits and suggesting diet modifications. Most jobs are in hospitals, nursing care facilities, and offices of physicians or other health practitioners. The School of Health, Physical Education and Recreation's Department of Applied Health Science offers a Bachelor of Science in this major (<http://www.indiana.edu/~aphealth/undergraduate/diet.shtml>).

**Emergency Medical Technician (Certification):** Emergency Medical Technicians (EMTs) assess, treat and transport victims of illness and injury. They are typically dispatched to a location after a 911 call. EMTs give appropriate emergency care and, when necessary, transport the patient, following strict rules and guidelines. There are four levels of training. IUB students are able to receive certification for EMT-Basic (or EMT-1) in the state of Indiana by taking several courses through the Department of Applied Health Science in the School of

Health, Physical Education and Recreation and by taking the National Registry of EMT's exam (<http://www.indiana.edu/~aphealth/undergraduate/emt.shtml>). [See related entry on Paramedic Science, pg. 5 of this document.]

**Exercise Science** is a science-based curriculum designed to provide a background in the exercise sciences for those students who wish to further their education at the graduate level. Students wishing to enter the job market with a B.S. degree in Exercise Science may be prepared for entry level positions with corporate and community fitness programs, health clubs, YMCAs and similar fitness related organizations. The School of Health, Physical Education and Recreation's Department of Kinesiology offers this Bachelor of Science degree (<http://www.indiana.edu/~kines/undergraduate/exercise.shtml>).

**Fitness Specialist** is a degree which provides specialized educational and practical experiences to those interested in a career in the emerging fitness/health/wellness industry. It is accredited by the American College of Sport Medicine (ACSM), the largest sports medicine and exercise science organization in the world. Students are eligible to take three nationally recognized certifications upon completion of their degree: ACE Personal Trainer, ACE Group Exercise Instructor, ACSM Health and Fitness Instructor. The School of Health, Physical Education and Recreation's Department of Kinesiology offers this Bachelor of Science degree (<http://www.indiana.edu/~kines/undergraduate/fitness.shtml>).

**Health Education – Secondary Teacher Preparation:** Health education teachers promote wellness and health of young adults in junior high and high schools, where the health education curriculum traditionally includes topic such as substance abuse, injury prevention, human sexuality, consumer health, disease prevention, mental health, nutrition, physical activity and personal growth. The School of Health, Physical Education and Recreation's Department of Applied Health Science administers a bachelor's degree in this major (<http://www.indiana.edu/~aphealth/undergraduate/he.shtml>).

**Human Development/Family Studies** explores human behavior from the perspective of lifespan development and within the context of the intimate environment of the family. As an applied field, it is focused on how developmental stages, the effects of divorce, coping with aging, and human sexuality can illuminate relationships and behavior. Family Studies examines specific roles within the family and how the members interact with each other and with greater society. The School of Health, Physical Education and Recreation's Department of Applied Health Science offers a Bachelor of Science in this major (<http://www.indiana.edu/~aphealth/undergraduate/hdfs.shtml>).

**Nursing\*:** Registered nurses (RNs) assess, develop, plan, implement, and evaluate care plans for individuals, families and communities. RNs may specialize in one or more areas of patient care as well as take positions that involve little or no patient care (e.g., case managers, forensics nurses). [See the Bureau of Labor Statistics Occupational outlook Handbook for more info: <http://www.bls.gov/oco/ocos083.htm>.] Academic preparation to take the Registered Nurse (RN) licensure exam can be earned through a Bachelor of Science in Nursing (BSN) degree or an Associate of Science in Nursing (ASN) degree. The IUB School of Nursing offers a four-year BSN (see <http://www.indiana.edu/~iubnurse/home/general/son.html>).

**Nutrition Science:** Nutrition scientists learn how the body works and how to prevent disease through nutrition. Most nutrition science students continue their education either in medical or graduate school because the study of nutrition science lays a solid foundation for future academics, researchers, doctors, dentists, and other health professionals. The School of Health, Physical Education and Recreation's Department of Applied Health Science offers a Bachelor of Science degree in this major (<http://www.indiana.edu/~aphealth/undergraduate/nutri.shtml>).

**Optician/Optomeric Technician (Associate of Science):** Opticians fill eyewear prescriptions, following prescriptions written by ophthalmologists and optometrists. They are trained to choose and dispense eyewear, take facial measurements, and to produce and shape the lenses to fit a frame. Optometric technicians work closely with an eye doctor and are part of the eyecare team. They learn business procedures, take various measurements for the doctor and teach contact wearers how to use them. The IU School of Optometry offers this degree (<http://www.opt.indiana.edu/opttech/index.htm>).

**Physics:** Through the Applied Physics track, students can pursue a program focused on practical applications of physics to human biology and medicine while earning a Bachelor of Science degree in Physics. The Applied Physics program offers coursework in medical physics, a subject that encompasses topics such as nuclear medicine, imaging techniques, and radiation therapy. Applied Physics students interested in medical physics have the opportunity to intern at local facilities that employ medical physicists, a career path that is currently in high demand. For more information please visit: <http://applied.physics.indiana.edu>.

**Psychology:** Psychology seeks to understand the basic principles by which living organisms adapt their behaviors to the changing physical and social environments in which they live. A bachelor's degree in psychology qualifies a person to assist psychologists and other professionals in various social services organizations, doing research or providing administrative support. Many find employment in the business world in sales, business management or doing marketing research. The Department of Psychological and Brain Sciences in the College of Arts & Sciences offers a Bachelor of Arts (B.A.) and a Bachelor's of Science (B.S.) degree (<http://psych.indiana.edu/undergrad/prospective/prospective.asp>). Students who are considering pursuing graduate study in psychiatry should choose the B.S. in Psychology and prepare for admission to medical school.

**Public Health Administration:** This major introduces students to health care administration through courses in public personnel, health care administration, epidemiology, health education, legal aspects of health care, health finance and economics, managed care, hospital and long term care administration and health care marketing. This Bachelor of Science degree is offered through the School of Public and Environmental Affairs ([http://www.indiana.edu/~spea/prospective\\_students/undergrad/degrees/BSPH%20.shtml](http://www.indiana.edu/~spea/prospective_students/undergrad/degrees/BSPH%20.shtml)).

**Public Health:** Public health educators promote the health of the general public through educational programs, policy changes and data analysis. Educators may implement, monitor and evaluate health programs and/or serve as a resource through government agencies, hospitals, nonprofit organizations, businesses and universities. This IUB major helps students acquire the background for developing, implementing and evaluating health education programs in the community, most of them occurring in clinical, educational and occupational settings. The School of Health, Physical Education and Recreation's Department of Applied Health Science offers a Bachelor of Science in this major (<http://www.indiana.edu/~aphealth/undergraduate/phe.shtml>).

**Safety Science:** Safety professionals protect people, property and the environment. They identify hazards, advise their organization on how to eliminate or minimize hazards, and evaluate the effectiveness of loss prevention programs. They also help organizations comply with Occupational Safety and Health Administration (OSHA) and other safety-related standards. The School of Health, Physical Education and Recreation's Department of Applied Health Science offers a Bachelor of Science in this major (<http://www.indiana.edu/~aphealth/undergraduate/safety.shtml>).

**Social Work:** A career in social work is a profession for those with a strong desire to help improve people's lives. Social workers work with individuals and families to improve difficult situations and relationships. They work closely with health care providers in all facets of care. A Bachelor of Science degree is offered through the School of Social Work in Bloomington (<http://socialwork.iub.edu/>).

**Speech-language Pathology:** Speech-language pathologists assess, diagnose, treat and help prevent speech, language, cognitive, communication, voice, swallowing, fluency and other related disorders. The Speech and Hearing Sciences department in the College of Arts and Sciences offers a pre-professional major with a concentration in Speech-Language Pathology ([http://www.indiana.edu/~sphs/UG\\_overview.html](http://www.indiana.edu/~sphs/UG_overview.html)).

**Therapeutic Recreation:** Therapeutic recreation specialists improve health, functional ability and quality of life for people with disabilities and illnesses through a variety of recreational activities. Therapists help individuals build confidence, socialize effectively, reduce depression and anxiety, recover motor functioning and reasoning abilities. They also teach people with disabilities how to use community resources and recreational activities. This major is offered through the IUB School of Health, Physical Education and Recreation's Department of Recreation, Park, and Tourism Studies (<http://www.indiana.edu/~recpark/undergraduate/therarec.shtml>).

**Undergraduate Research:** The departments of Biology (<http://www.bio.indiana.edu/>), Chemistry (<http://www.chem.indiana.edu/>), Physics (<http://applied.physics.indiana.edu>), and Psychological and Brain Sciences (<http://www.indiana.edu/~psych/>) offer abundant opportunities for undergraduate research on this campus. Please visit their respective websites for more information.

## **Undergraduate Degrees and Certificates completed at other IU Campuses**

The undergraduate degrees and certificates listed below include many (but not all) IU health-related majors that must be completed at other IU campuses (IUPUI cited most frequently here, but other IU campuses may offer similar programs). IU Bloomington students complete the prerequisite courses while here and apply to these programs at least six months prior to beginning the professional program. See respective Health Professions and Prelaw Center handouts and program websites for application deadlines.

**Clinical Laboratory Sciences\*:** Clinical Laboratory Scientists (also called Medical Technologists) perform diverse and complex laboratory analyses on biological samples from patients. They combine theoretical knowledge and technical skills to provide quality test results that are used for making diagnostic and therapeutic decisions. Tasks performed include analyses of body fluids, evaluation of cellular components of blood, preparation of blood components for patient therapy, and identification of microorganisms. The Clinical Laboratory Science program is a four year program that requires three years of prerequisite college coursework that may be completed at IUB, followed by a professional year that is completed at the IU School of Medicine in Indianapolis (<http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/medicine/undergraduate/clinical-laboratory/index.shtml>).

**Cytotechnology\*:** Cytotechnologists are medical laboratory specialists who assist with the detection and diagnosis of disease using samples drawn from various human body sites. They prepare slides and microscopically examine them for abnormalities of all types, including cancerous and precancerous cells. They also search for microbial causative agents for inflammatory diseases and abnormalities that indicate other disease processes. The prime objective of a cytotechnologist is to detect cancer early, when the best chance for a cure exists. The Cytotechnology program is a four year program that requires three years of prerequisite college coursework that may be completed at IUB, followed by a professional year that is completed at the IU School of Medicine in Indianapolis (<http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/medicine/undergraduate/cytotechnology/index.shtml>).

**Dental Hygiene (Associate of Science)\*:** A dental hygienist is trained and licensed to provide preventive dental services. These services include, among other responsibilities, cleaning patients' teeth with a variety of instruments, taking x-rays, examining teeth and gums, recording the presence of diseases or abnormalities, and educating patients to help them develop and maintain good oral health. Indiana University offers a program leading to a two-year Associate of Science degree in dental hygiene, completed at IPFW, IUN, IU School of Dentistry (IUPUI) or IUSB. IUB students should plan to take two years of prerequisite coursework that prepares them for admission to all dental hygiene programs available in the IU system and the University of Southern Indiana. See the HPPLC publication for more information by visiting [www.hpplc.indiana.edu](http://www.hpplc.indiana.edu) and clicking on the "Other Health Professions" link.

**Health Information Administration (HIA)\*:** Health information managers (HIMs) are responsible for the maintenance and security of all patient records. HIMs maintain, collect and analyze health information. The Indiana University School of Informatics in Indianapolis offers a degree in Health Information Administration (HIA), based on the Medical Center campus in Indianapolis. IUB students take 74 semester hours of prerequisite coursework on our campus before entering the program at IUPUI (<http://informatics.iupui.edu/academics/health/hia/>).

**Histotechnology (Certificate and Associate of Science):** A histology technician processes surgical, autopsy or research tissue specimens for microscopic examination. Although most histology technicians work in human health care facilities, many are employed in veterinary, industrial, or research laboratories. IUB students may be eligible for admission to the Certificate in Histotechnology program if they meet the minimum academic requirements (see <http://www.iupui.edu/~bulletin/iupui/2010->

2012/schools/medicine/undergraduate/histotechnology/index.shtml). *Only certified histotechnicians (HT), or histotechnologists (HTL), are accepted into the Associate of Science program.*

**Medical Imaging Technology\***: Medical imaging technologists are radiographers who have completed additional education in advanced image production. They use interventional angiography, computer tomography, medical resonance imaging and/or ultrasonography as the imaging modality. IU Bloomington students prepare for entry to the Medical Imaging Technology (MIT) program by taking general education courses required for admission to the MIT program along with general education and admission courses required for the Associate of Science degree in Radiography (see entry below). *Only certified radiographers are accepted into the MIT program, so there is no direct entry possible for IU Bloomington students. They must have completed or in the process of completing requirements for the Radiography AS when they apply.* A bachelor's degree in medical imaging technology is offered by the IU School of Medicine Health Professions Programs on the Medical Center campus in Indianapolis (<http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/medicine/undergraduate/medical-imaging/index.shtml>).

**Nuclear Medicine Technology\***: Nuclear medicine technologists provide patient diagnostic and therapeutic services using the nuclear properties of radioactive materials. They perform patient organ imaging procedures, analysis of biological specimens and administer radioactive medications to patients. IU Bloomington students take two years of prerequisites before they enter the program at the IU School of Medicine's Health Professions Program on the Medical Center campus in Indianapolis (<http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/medicine/undergraduate/nuclear-medicine/index.shtml>).

**Nursing\***: Registered nurses (RNs) assess, develop, plan, implement, and evaluate care plans for individuals, families and communities. RNs may specialize in one or more areas of patient care as well as take positions that involve little or no patient care (e.g., case managers, forensics nurses). [See the Bureau of Labor Statistics Occupational outlook Handbook for more info: <http://www.bls.gov/oco/ocos083.htm>.] Academic preparation to take the Registered Nurse (RN) licensure exam can be earned through a Bachelor of Science in Nursing (BSN) degree or an Associate of Science in Nursing (ASN) degree. The four-year BSN can be completed on campuses throughout the IU system (see <http://www.indiana.edu/~iubnurse/home/general/son.html>).

**Paramedic Science (Associate of Science)\***: Emergency Medical Technicians (EMTs) assess, treat and transport victims of illness and injury. EMT (basic) is the entry level into the emergency medical field (see entry for *Emergency Medical Technician*). The EMT, paramedic is the advanced practitioner in the field. EMT, paramedics immobilize fractures, supply intravenous therapy, perform heart monitoring, and provide other life saving interventions for the victims of acute illness or injury. The professional Associate of Science degree for EMT, paramedic is based on the Medical Center campus in Indianapolis (<http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/medicine/undergraduate/emergency-medical/index.shtml>). IU Bloomington students take 29 credits of prerequisite coursework prior to entrance into the Associate of Science program which requires two semesters and two summer sessions in order to obtain certification as an EMT, paramedic.

**Radiation Therapy\***: Radiation Therapists administer and monitor radiation therapy for the treatment of benign and malignant tumors, communicating with the physician and supportive care personnel, care-giving, effective management of rapidly changing situations and professionalism. IUB students complete two years of prerequisite course work on our campus. Once admitted to the Radiation Therapy program, students complete their professional program coursework at the IU Medical Center in Indianapolis (<http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/medicine/undergraduate/radiation-therapy/index.shtml>).

**Radiography (Associate of Science)\***: Radiographers use x-rays to produce photographic images of body structure. These images are then used to diagnose and treat diseases and injuries incurred by the patient. Radiographers may also assist physicians in performing other complex examination procedures. Indiana University regional campuses that offer a degree in radiography are located in Indianapolis (<http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/medicine/undergraduate/radiography/index.shtml>),

Fort Wayne, Kokomo, South Bend and Gary. IUB students take preparatory and general education courses while on the Bloomington campus.

**Respiratory Therapy\*:** Respiratory Therapists (RTs) evaluate and treat patients with cardiopulmonary disorders and are actively involved in health promotion and disease prevention. They care for anyone from the premature infant to the geriatric or older patient. RTs practice in a variety of settings, ranging from patients' homes to the highest level of critical care units. To become an RT, Indiana University Bloomington students must take 55 credits of prerequisite courses before they begin their professional program leading to the Bachelor of Science degree in Respiratory Therapy. Once admitted to the RT program, students complete their professional program coursework at the IU Medical Center in Indianapolis (<http://www.iupui.edu/~bulletin/iupui/2010-2012/schools/medicine/undergraduate/respiratory-therapy/index.shtml>).

## Professional Programs and Graduate Degrees

The health-related programs listed below require completion of a list of prerequisite coursework and/or completion of a bachelor's degree followed by a professional program (or graduate study). In most cases, IU Bloomington students incorporate a list of required prerequisite courses into a bachelor's degree of their choosing and apply to programs approximately one year prior to beginning a professional program. An entrance test or exam is often required for admission as well. The following list is not meant to be comprehensive and we encourage students to explore professional and graduate school websites for additional information about admission requirements.

**Notes:** 1) *Even though some professional programs allow a small number of students to enter their programs "early" (before completing an undergraduate degree), it is not common and students should plan to complete a bachelor's degree before entering.* 2) *Indiana University does not offer advanced degrees on any campus for several of the professions listed below (most notably Chiropractic, Pharmacy, Physician Assistant, Podiatry and Veterinary Medicine).*

**Audiology:** Audiologists evaluate, assess and determine a course of treatment for people who have hearing, balance and related ear problems. They interpret results of specialized tests and may coordinate them with medical, educational and psychological information to make a diagnosis and determine a course of treatment. Audiologists may work in private practice, in clinics, or with educators and other healthcare providers. Some audiologists specialize in working with children, the elderly or special cases. See the following website for more info: <http://www.bls.gov/oco/ocos085.htm>.

**Biomedical Sciences:** Advances in medical science research have led to expanding opportunities to contribute to the development of new treatments and further the understanding of disease. Depending on one's area of research interest, one may pursue graduate degree programs in a variety of diverse areas in the biomedical and life sciences. The IU School of Medicine offers a Biomedical Gateway Program that can lead to Ph.D.'s in Anatomy and Cell Biology; Biochemistry and Molecular Biology; Cellular and Integrative Physiology; Medical and Molecular Genetics; Medical Biophysics and Biomolecular Imaging; Medical Neuroscience; Microbiology and Immunology; Pathology and Laboratory Medicine; Pharmacology; and Toxicology (for more information please go to <http://grad.medicine.iu.edu/degree-programs/ibmg/>). Other medical schools and universities offer a wide variety of similar programs in the biomedical and life sciences.

**Chiropractic Physicians\*:** Chiropractors, also known as *doctors of chiropractic* or *chiropractic physicians*, diagnose and treat patients whose health problems are associated with the body's muscular, nervous, and skeletal systems, especially the spine. Chiropractors believe that interference with these systems impairs the body's normal functions and lowers its resistance to disease. They also hold that spinal or vertebral dysfunction alters many important body functions by affecting the nervous system and that skeletal imbalance through joint or articular dysfunction, especially in the spine, can cause pain. See the following website for more info: <http://www.bls.gov/oco/ocos071.htm>.

**Clinical Psychology:** Clinical psychologists often may provide individual, family, or group psychotherapy, and design and implement behavior modification programs. Some clinical psychologists collaborate with physicians and other specialists to develop and implement treatment and intervention programs that patients can understand and comply with. Other clinical psychologists work in universities and medical schools, where they train graduate

students in the delivery of mental health and behavioral medicine services. See the following website for more info: <http://www.bls.gov/oco/ocos056.htm>.

**Counseling:** Depending upon what degree / licensure they have earned, their career focus, and their work setting, counselors help people (e.g., individuals, groups, couples, and families) with personal, family, educational, mental health, and career-related problems. With the proper training and experience, one can become a counselor or director of school services personnel in elementary and secondary schools, community agencies, educational and non-educational institutions, or business and industry. See the following web site for more information: [www.bls.gov/oco/ocos067.htm](http://www.bls.gov/oco/ocos067.htm).

**Dentistry\*:** Dentists diagnose, prevent, and treat problems with teeth or mouth tissue. They remove decay, fill cavities, examine x-rays, place protective plastic sealants on children's teeth, straighten teeth, and repair fractured teeth. They also perform corrective surgery on gums and supporting bones to treat gum diseases. Dentists extract teeth and make models and measurements for dentures to replace missing teeth. They provide instruction on diet, brushing, flossing, the use of fluorides, and other aspects of dental care. They also administer anesthetics and write prescriptions for antibiotics and other medications. See the following website for more info: <http://www.bls.gov/oco/ocos072.htm>.

**Forensic Anthropology:** Forensic anthropologists analyze human remains for legal and humanitarian reasons. The majority of forensic anthropologists are associated with academic or research institutions and consult on legal cases when asked. Others are employed by medical examiner's offices, the armed forces, non-government organizations or ad-hoc tribunals. They usually have a Ph.D. or a Master's degree in physical or biology anthropology and a bachelor's degree in anthropology. A strong background in biology and chemistry are also needed. See the following website for more info: <http://www.theabfa.org/forstudents.html>.

**Health Administration:** Healthcare organizations need good management to keep them running smoothly. The occupation of medical and health services manager encompasses all individuals who plan, direct, coordinate, and supervise the delivery of healthcare. Medical and health services managers include specialists and generalists. Specialists are in charge of specific clinical departments or services, while generalists manage or help to manage an entire facility or system. See the following website for more info: <http://www.bls.gov/oco/ocos014.htm>.

**Law: Health, Patent, Intellectual Property\*:** Science majors do extremely well in law school admissions generally, as well as in specialties such as Health Law, Intellectual Property, Bioethics, Trademarks, Copyright, Patent Law, and Bioengineering. In addition, many law schools offer certificate programs or other opportunities to specialize in areas for which a science background would be helpful. See the following website for more info: <http://www.bls.gov/oco/ocos053.htm>.

**Medical Physics:** Medical Physics is the bridge connecting physics and medicine. A medical physicist is a professional who specializes in the application of the concepts and methods of physics to the diagnosis and treatment of human disease. There are two principle branches of medical physics: clinical practice and research. Within each of these branches you will find several disciplines including therapeutic radiological physics, diagnostic imaging physics, medical nuclear physics, health physics, radiation biology and biophysics. In the hospital setting, medical physicists partner with physicians to develop radiation therapy treatments for patients. They certify and maintain therapy and imaging equipment and ensure a safe clinical working environment. In the laboratory, medical physicists develop new therapies and imaging technologies based upon cutting edge biology and physics. See the following website for more information: [http://www.aapm.org/medical\\_physicist/default.asp](http://www.aapm.org/medical_physicist/default.asp).

**Medicine\*:** Physicians and surgeons serve a fundamental role in our society and have an effect upon all our lives. They diagnose illnesses and prescribe and administer treatment for people suffering from injury or disease. Physicians examine patients, obtain medical histories, and order, perform, and interpret diagnostic tests. They counsel patients on diet, hygiene, and preventive healthcare. There are two types of physicians: M.D.—Doctor of Medicine—and D.O.—Doctor of Osteopathic Medicine. M.D.s also are known as allopathic physicians. While both M.D.s and D.O.s may use all accepted methods of treatment, including drugs and surgery, D.O.s place special emphasis on the body's musculoskeletal system, preventive medicine, and holistic patient care. D.O.s are more likely than M.D.s to be primary care specialists although they can be found in all specialties. About half of D.O.s practice general or family medicine, general internal medicine, or general pediatrics. See the following website for more info: <http://www.bls.gov/oco/ocos074.htm> .

**Occupational Therapy (OT)\*:** Occupational therapists help people maximize their ability to participate in life independently. With OT, children and adults facing physical, cognitive or psychosocial challenges can improve skills that help them perform daily tasks at home, school, work and play. Occupational therapists don't simply treat medical conditions. They help people stay engaged in activities that give them pleasure or a sense of purpose despite challenges. Critical thinking and problem-solving skills, patience, empathy, strong communication skills and the ability to work with a team of caregivers are skills to this profession. See the following website for more info: <http://www.bls.gov/oco/ocos078.htm>.

**Optometry\*:** Doctors of Optometry (ODs) are the primary healthcare professionals for the eye. Optometrists examine, diagnose, treat, and manage diseases, injuries, and disorders of the visual system, the eye, and associated structures as well as identify related systemic conditions affecting the eye. See the following website for more info: <http://www.bls.gov/oco/ocos073.htm>.

**Pharmacy\*:** Pharmacists dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. They advise physicians and other health practitioners on the selection, dosages, interactions, and side effects of medications. Pharmacists also monitor the health and progress of patients in response to drug therapy to ensure safe and effective use of medication. Pharmacists must understand the use, clinical effects, and composition of drugs, including their chemical, biological, and physical properties. See the following website for more info: <http://www.bls.gov/oco/ocos079.htm>.

**Physical Therapy\*:** Physical therapists (PTs) are healthcare professionals who diagnose and treat individuals of all ages, from newborns to the elderly, who have medical problems or other health-related conditions that limit their abilities to move and perform functional activities in their daily lives. PTs provide interventions utilizing therapeutic exercise, physical agents and assistive devices to restore function, relieve pain and prevent or limit permanent disabilities. They may also participate in administrative, teaching and research activities. See the following website for more info: <http://www.bls.gov/oco/ocos080.htm>.

**Physician Assistant\*:** Physician Assistants (PAs) are health care professionals licensed to practice medicine with physician supervision. As part of their comprehensive responsibilities, PAs conduct physical exams, diagnose and treat illnesses, order and interpret tests, counsel on preventative health care, assist in surgery and, in most states, are permitted to write prescriptions. Because of the close working relationship that PAs have with physicians, PAs are educated in the medical model designed to complement physician training. See the following website for more info: <http://www.bls.gov/oco/ocos081.htm>.

**Podiatric Medicine\*:** Podiatrists treat corns, calluses, ingrown toenails, bunions, heel spurs, and arch problems; ankle and foot injuries, deformities, and infections; and foot complaints associated with diseases such as diabetes. To treat these problems, podiatrists prescribe drugs, order physical therapy, set fractures, and perform surgery. They also fit corrective inserts called orthotics, design plaster casts and strappings to correct deformities, and design custom-made shoes. Podiatrists may use a force plate to help design the orthotics. See the following website for more info: <http://www.bls.gov/oco/ocos075.htm> .

**Public Health\*:** Public health experts develop, implement, and evaluate interventions designed to affect health behaviors in populations as well as develop and design public policies that affect public health. They work in public and private settings such as business, industry, higher education, volunteer agencies, government and health care. See the following website for more info: <http://www.whatispublichealth.org/>.

**Social Work:** A career in social work is a profession for those with a strong desire to help improve people's lives. Social workers help people function the best way they are able to in their environment, deal with their relationships and solve personal and family problems. Social workers work closely with health care providers in all facets of care. See the following website for more info: <http://www.bls.gov/oco/ocos060.htm>.

**Speech-language Pathologists:** Speech-language pathologists assess, diagnose, treat and help prevent speech, language, cognitive, communication, voice, swallowing, fluency and other related disorders. See the following website for more info: <http://www.bls.gov/oco/ocos099.htm>.

**Veterinary Medicine\***: Veterinarians serve in various roles in our society: 1) they provide healthcare for animals in all types of settings, 2) they conduct research, and 3) they protect humans against diseases carried by animals. They work in their own or group practices; as U.S. government meat and poultry inspectors; as animal welfare and safety workers, epidemiologists, or commissioned officers for U.S. Public Health Service or various branches of the U.S. Armed Forces. See the following website for more info: <http://www.bls.gov/oco/ocos076.htm>.