

Fields of Study-Exercise Physiology

Definition and Nature of the field

Exercise Physiology is a sub-discipline of Kinesiology that addresses 1) the short-term biological responses to the stress of physical activity and 2) how the body adapts to repeated bouts of physical activity over time. As such, exercise physiology professionals often have the responsibility of conditioning a person to a higher level of fitness and/or health while, at the same time, being aware of safety issues (risk of injury, illness, environmental exposure, etc.) associated with a single session of exercise. The type of client that can benefit from training under an exercise physiology professional varies greatly, ranging from world class athletes wishing to improve their performance to patients with chronic illnesses wishing to increase or maintain their ability to accomplish activities of daily living.

Educational Requirements

In general, reputable facilities hiring personal trainers or people to lead exercise classes require some sort of fitness leadership certification. Most jobs in fitness management, particularly in community and corporate settings, require a bachelor's degree, and a master's degree in kinesiology or a related area is often helpful. Even when a master's degree is not required for an entry-level position, it usually results in a higher salary and may be very helpful in terms of advancing to a supervisory position. Students who plan to work in cardiac rehabilitation, corporate fitness, physical therapy, etc. must have a similar knowledge base. In the underlying courses, students should develop the skill and knowledge necessary in their specialized course of study. Each university has different requirements but a suggested curriculum may include: health and wellness, anatomy and physiology; biomechanics/kinesiology; nutrition/weight control; exercise psychology, prevention and care of athletic injuries, fitness testing and exercise prescription for both normal and special populations, computer technology, and a practicum/internship experience. Business classes may also be beneficial to those wishing to advance to management positions.

Career Opportunities

For the most part, these jobs can be divided into those working with apparently healthy clients (non-clinical) and clients with chronic diseases or other medical concerns (clinical). Non-clinical environments often deal with adults who want to lose weight or gain fitness, either for overall health benefits or for participation in recreational activities. The most common non-clinical environments include private fitness facilities and community organizations such as YMCAs. In addition, many corporations offer fitness/wellness programs for their employees. Careers in these settings range from personal training and leading group exercise classes to managing a facility. Personal trainers may work for an exercise facility or as independent contractors. Strength and conditioning specialists who work with athletic populations may be hired by intercollegiate athletic programs or by professional athletic teams. It is not uncommon for conditioning coaches to be self-employed. In recent years, the training of teen athletes has become increasingly popular and, as a result, many private fitness facilities now offer both general and sport-specific conditioning programs for young athletes.

Clinical exercise physiologists offer medically supervised exercise programs for several different chronic diseases, the most common treat patients with heart of lung diseases. Although some of these programs are separate (heart and lung diseases), many programs are combined, so it is prudent for a clinical exercise professional to have the ability to prescribe exercise for both cardiac and pulmonary patients. In addition, the number of exercise programs available to treat cancer patients is growing, so this is becoming a potential area of employment. While people who are overweight or mild-to-moderate obese may obtain sufficient help in fitness facilities designed for apparently health individuals medically supervised weight-loss programs are available for the severely obese. Also, more exercise programs for senior citizens are becoming available in settings ranging from community exercise facilities to nursing homes.

In addition to careers that involve prescribing and leading exercise, teaching jobs for exercise physiologists are available in higher education. In addition to teaching, faculty have an expectation to conduct research that can range from the determination of an effective exercise training regimen in a particular population to the identification of a cellular mechanism responsible for exercise's protective effect against a particular disease.

Finally, because of the science prerequisites, many students use kinesiology programs with strong exercise physiology requirements to prepare for entry into graduate programs for a variety of allied health professions such as physical therapy, medicine, physician's assistant, chiropractic and occupational therapy. Students often find that kinesiology is a more enjoyable and practical major than other disciplines offering pre-professional majors. In addition, many professionals in pharmaceutical, medical equipment sales and insurance have exercise physiology backgrounds.

[Source: Adapted from the American Kinesiology Association (AKA) Career Center-Careers in Exercise Physiology. (www.americankinesiology.org/featured-careers/featured-careers/exercise-physiology)]