

***Department of Family, Nutrition, and Exercise Sciences
Queens College of City University of New York***

**Master of Science Degree: Nutrition and Exercise Sciences
Concentration in Exercise Science**

FNES 702	Statistical Methods in FNES	3 cr.
FNES 720	Exercise Physiology	3 cr.
FNES 722	Exercise, Energy Balance, and Body Composition	3 cr.
FNES 725	Measurement of Physical Fitness and Body Composition	3 cr.
FNES 726	Internship in Adult Fitness and/or Cardiac Rehabilitation	3 cr.
FNES 729	ECG, Stress Testing and CV Diseases	3 cr.
FNES 733	Physical Activity, Health, and Exercise Prescription I	3 cr.
FNES 734	Physical Activity, Health, and Exercise Prescription II	3 cr.
FNES 796	Research Methods in Nutrition and Exercises Sciences (Preq.: FNES 702)	3 cr.
FNES 797	Research Project in Nutrition and Exercise Sciences (Preq.: FNES 796)	3 cr.
<u>or</u>	FNES elective (must take written comprehensive examination with this choice)	
FNES	Elective	3 cr.
FNES	Elective	3 cr.
Total Credits		36 Credits

Elective Choices:

FNES 719	Cardiac Rehabilitation Programs	3 cr.
FNES 730	Mechanical Analysis of Human Movement	3 cr.
FNES 740	Motor Learning	3 cr.
	Sport Nutrition	3 cr.

***Effective Fall 2022
Updated 2/2/2022***

Course Description

FNES 702. Statistical Methods in FNES. 2 rec., 1 lab. hr.; 3 cr. Prereq.: A course in elementary statistics. Application of descriptive, correlational and inferential statistical methods in one-, two- and multigroup comparisons in parametric and non-parametric independent and correlated sample distributions.

FNES 720. Exercise Physiology. 3 hr.; 3 cr. Understanding mechanisms underlying exercise at the cellular, tissue, organ and system levels. Emphasis given on critically evaluating scientific studies in exercise science.

FNES 722. Exercise, Energy Balance, and Body Composition. 3 hr.; 3 cr. Interrelationships between exercise energetics, energy balance, and body composition.

FNES 725. Measurement of Physical Fitness and Body Composition. 3 hr.; 3 cr. Prereq.: FNES 720. Laboratory and field methods for assessing the various aspects of physical fitness.

FNES 726. Internship in Adult Fitness and/ or Cardiac Rehabilitation. Hr. to be arranged; 3 cr. Prereq.: Completion of 24 cr. in the Exercise Science Program and/or permission of the instructor. In addition to regular seminar meetings on campus, the on-site hourly requirement varies according to the clinical nature of the internship program. This course will provide an in-depth, highly structured, practical experience in a formalized program dealing with fitness and health enhancement in healthy adult populations as well as populations involved in rehabilitative programs. The internship integrates the basic academic classroom and laboratory learning of the university setting and applies this knowledge to existing community, corporate, and/or clinically-based programs.

FNES 729: Study of the pathophysiology of common cardiovascular diseases and the fundamentals of electrocardiography with special emphasis on its application to exercise stress testing.

FNES 733: Application of the current scientific evidence on exercise prescription for the improvement of cardiovascular function, musculoskeletal function and overall health. Understanding of the role of physical activity in chronic disease prevention and health promotion throughout the lifespan, including common methods used to evaluate physical activity. Health appraisal and risk assessment are included. In-depth study of program design principles for various special populations.

FNES 734: Application of the current scientific evidence on exercise prescription and program design principles for the improvement of health in people with diseases and disorders of the neuromuscular system, immune system, musculoskeletal system, as well as those with chronic cardiovascular, respiratory and metabolic diseases. Exercise testing principles for each disease or disorder are included.

FNES 796. Research Methods in Nutrition and Exercise Sciences. 3 hr.; 3 cr. Prereq.: FNES 702. Research methods and design strategies, including development of research proposals used in analytical, descriptive, qualitative, and experimental research studies in nutrition and exercise sciences.

FNES 797. Research Project in Nutrition and Exercise Sciences. 3 hr.; 3 cr. Prereq.: FNES 796. Under the supervision of a faculty advisor, students carry out the research project planned in FNES 796 that culminates in a written research report.

Course Description for Elective Courses

FNES 719. Cardiac Rehabilitation Programs. Overview of the concepts, design and implementation of primary prevention and cardiac rehabilitation programs.

FNES 730. Mechanical Analysis of Human Movement. 3 hr.; 3 cr. An analysis of the mechanics of human motion based upon the application of principles and laws of physics.

FNES 740. Motor Learning and Performance. 2 rec., 1 lab. hr.; 3 cr. Psychological, physiological, and neurological principles that facilitate learning and performance of motor skills.

Sports Nutrition. 3 hr.; 3 cr. Prereq: FNES 263 and 264. Nutritional parameters of athletic performance including energy production and expenditure, meal timing and composition, hydration, sport specific requirements and ergogenic aids, and nutritional needs for special situations.