

## Clinical Exercise Physiology

**College of Health Sciences**  
Department of Exercise Science

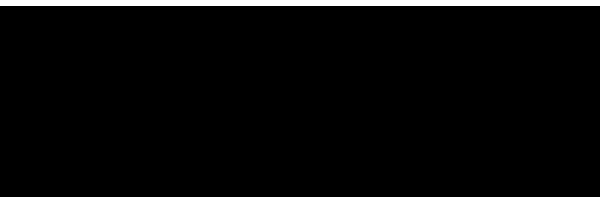


### Clinical Exercise Physiology Graduate Faculty

**Graduate Coordinator:**



**Professors:**



**Associate Professors:**



**Medical Director:**



### Clinical Exercise Physiology M.S.

45 credits

#### Purpose of Degree

The purpose of the Clinical Exercise Physiology program is to provide classroom and laboratory experiences that take full advantage of current knowledge and trends in rehabilitation of populations with cardiac, pulmonary and metabolic disorders through assessment and exercise programming.

The M.S. in Clinical Exercise Physiology is offered in conjunction with six area medical centers, and offers traditional classroom and laboratory experiences as well as specialized clinical experiences.

The Clinical Exercise Physiology program is typically restricted to the top 25 qualified applicants.

#### National Accreditation

The M.S. in Clinical Exercise Physiology is accredited by the Commission on Accreditation of Allied Health Educational Programs (CAAHEP).

#### PROGRAM OF STUDY

##### Required courses

##### Summer I Courses

EXSC 552	Exercise and Weight Control Workshop	2
EXSC 557	Physical Activity as Medicine Workshop	2

**Subtotal: 4**

##### Fall Semester Courses

EXSC 527	Physiology of Human Performance	3
CEXP 530	Electrocardiography, Non-Invasive Cardiac Evaluations, and Implications in Exercise and Rehabilitation	3
CEXP 531	Clinical Exercise Physiology Laboratory I	3
CEXP 586	Clinical Internship I	3
CEXP 540	Interventional Exercise for Special Populations	3

**Subtotal: 15**

##### Spring Semester Courses

EXSC 513	Evaluation and Applied Statistics in Exercise Science	3
CEXP 532	Clinical Exercise Physiology Laboratory II	3
CEXP 537	Exercise Testing and Programming	3
CEXP 538	Pathophysiology of Sedentary Lifestyle in Chronic Disease	3
CEXP 587	Clinical Internship II	3

**Subtotal: 15**

##### Summer II Courses

EXSC 528	Advanced Exercise Physiology Laboratory Techniques	1
CEXP 533	Health and Fitness Clinical Laboratory III	3
CEXP 536	Organization & Administration of Cardiac Rehabilitation & Primary Prevention Programs	3
CEXP 558	Clinical Exercise Specialist Workshop	1
CEXP 595	Clinical Exercise Physiology Seminar	3

**Subtotal: 11**

#### Admission Requirements

Please see the Exercise Science Department (p. 74) web page for information on specific admission requirements for this program.

#### Final Graduation Requirement

Students must pass a written comprehensive examination at the conclusion of coursework.

#### CEXP - Clinical Exercise Physiology

##### CEXP 530 - Electrocardiography, Non-Invasive Cardiac Evaluations, and Implications in Exercise and Rehabilitation (3 credits)

Basic electrocardiographic concepts of the normal EKG, arrhythmias, conduction defects, ischemia, infarction, hypertrophies, exercise, drug effects, and rehabilitation are discussed and demonstrated. Noninvasive procedures of echocardiography and thallium scanning and their importance in diagnosis and rehabilitation are presented. Clinical Exercise Physiology students only/permission of instructor.

**CEXP 531 - Clinical Exercise Physiology Laboratory I (3 credits)**  
This lecture/lab experience is conducted in the Human Performance Lab and prepares students to participate in a variety of multidisciplinary clinical environments. Development of pertinent skills and discussion of relevant concepts pertaining to cardiac rehabilitation and exercise for other special populations are presented to prepare students for experiences at area hospitals and medical facilities. Clinical Exercise Physiology students only.

**CEXP 532 - Clinical Exercise Physiology Laboratory II (3 credits)**  
This lecture/lab experience is conducted in the Human Performance Lab and continues the discussion and development of skills necessary to continue preparation of Clinical Exercise Physiology students for clinical rotations at area hospitals and medical facilities. Clinical Exercise Physiology students only.

**CEXP 533 - Health and Fitness Clinical Laboratory III (3 credits)**  
Students observe and experience the programmatic, organizational, and administrative aspects of the Health and Fitness program at Pocono Medical Center. The "wellness" concept is stressed by learning evaluation and measurement techniques as well as participation in educational and counseling settings.

**CEXP 536 - Organization & Administration of Cardiac Rehabilitation & Primary Prevention Programs (3 credits)**  
This course analyzes general principles and procedures of cardiac and primary prevention programs. The organization and administration of specific programs will be discussed. Clinical Exercise Physiology students only.

**CEXP 537 - Exercise Testing and Programming (3 credits)**  
An in-depth analysis of exercise stress testing for cardiac patients, symptomatic and asymptomatic, is presented along with principles and practices of exercise programming. Traditional as well as more recently developed exercise testing and programming procedures are discussed. Clinical Exercise Physiology students only/permission of instructor.

**CEXP 538 - Pathophysiology of Sedentary Lifestyle in Chronic Disease (3 credits)**  
The role of exercise in evaluation and treatment of chronic diseases will be presented in this course. Exercise's effect as an adjunct therapy on the pathophysiological characteristics of cardiac, pulmonary and metabolic diseases will be the primary focus. Traditional and newer drugs and their pharmacological actions are presented as they relate to rehabilitation and treatment. Clinical Exercise Physiology students only/permission of instructor.

**CEXP 539 - Coronary Heart Disease: Its Medical Diagnosis and Management (3 credits)**  
This course presents a broad overview of coronary heart disease etiology, diagnosis, treatment, and prognosis related to cardiac rehabilitation. Students will be introduced to material that will serve as a foundation for advanced courses in pathophysiology, electrocardiography, stress testing, and clinical laboratories. Clinical Exercise Physiology students only/permission of instructor.

**CEXP 540 - Interventional Exercise for Special Populations (3 credits)**  
Adaptations to the basic principles of exercise testing and programming for special populations with specific physical, physiological and/or mental challenges will be explored in this course. Identification of priority elements within the exercise and health domains derived from client/patient medical histories and development of appropriate exercise testing evaluations will be used to develop individualized exercise prescriptions that result in measurable positive outcomes.

**CEXP 558 - Clinical Exercise Specialist Workshop (1 credit)**  
The Clinical Exercise Specialist Workshop will provide structured experiences in the classroom, laboratory, and gymnasium to improve knowledge and understanding of graded exercise testing, exercise prescription, and physical activities as used in prevention and rehabilitation. A review of the knowledge, skills, and objectives for the American College of Sports Medicine's (ACSM) Exercise Specialist and Registered Clinical Exercise Physiologist certifications are covered.

**CEXP 586 - Clinical Internship I (3 credits)**  
This course, offered in the Fall semester, is designed to provide the Clinical Exercise Physiology graduate student with practical, clinical skills/experiences in a variety of internship sites. Prerequisite: Permission of the department.

**CEXP 587 - Clinical Internship II (3 credits)**  
This course, offered in the Fall semester, is designed to provide the Clinical Exercise Physiology graduate student with practical, clinical skills/experiences in a variety of internship sites. Prerequisite: Permission of the department.

**CEXP 588 - Clinical Internship II (3 credits)**  
This course, offered in the Spring semester, is designed to continue the development of basic practical skills introduced in Clinical Internship I and to provide the student with the opportunity to practice advanced skills in clinical exercise physiology in a controlled medical setting. Prerequisite: Permission of the department.

**CEXP 595 - Clinical Exercise Physiology Seminar (3 credits)**  
This course focuses on current concepts, controversies, and issues in clinical exercise physiology. The lecture-discussion format utilizes appropriate literature as sources for dialogue and pre-requisite courses serve as a basis for analyzing relevant theoretical and practical concerns. Clinical Exercise Physiology students only.

**CEXP 599T - Clinical Exercise Physiology Graduate Transfer (1 - 6 credits)**  
This course focuses on current concepts, controversies, and issues in clinical exercise physiology. The lecture-discussion format utilizes appropriate literature as sources for dialogue and pre-requisite courses serve as a basis for analyzing relevant theoretical and practical concerns. Clinical Exercise Physiology students only.