Kinesiology/Integrative Exercise Physiology, Ph.D.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

The mission of the Department of Kinesiology is to advance comprehensive inquiry into, and understanding of, human movement in all of its forms and implications. The program primarily trains academicians but also clinicians/practitioners in some areas. The program offers an opportunity to engage in coursework as well as research and applied work across a range of subdisciplines within the discipline of Kinesiology. Central to the mission is the discovery and dissemination of knowledge through a multidimensional study of physical activity with special emphasis on the relationships among physical activity, health, and well-being. This approach incorporates biophysical, behavioral, and professional practice perspectives.

Time Limit for Degree Completion: 7 years

Campus Location: Main, with classes occasionally offered at Fort Washington. Electives are also offered on the Center City, Ambler, and Health Sciences Center campuses.

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: Interdisciplinary study is available within the department and through other departments in the University.

Areas of Specialization: Students in the Integrative Exercise Physiology concentration primarily focus on urban-health issues related to translational and evidence-based practice of physical activity on metabolic-related diseases. The areas of distinctiveness are hypertension, obesity, and diabetes.

Job Prospects: The majority of students find positions in academic institutions, while some work in research and clinical settings. Training is primarily for academic and research positions at institutions of higher learning.

Non-Matriculated Student Policy: Non-matriculated students are welcome to take classes in the department, assuming they have the requisite knowledge to be successful in the coursework.

Financing Opportunities: Assistantship duties include, but are not limited to, teaching activity courses in a variety of movement forms and sports; teaching laboratory sections of undergraduate courses such as Biomechanics, Human Anatomy and Physiology, and Physiology of Exercise; serving as a research assistant in a research laboratory; or acting as an administrative assistant to one of the department administrators.

Admission Requirements and Deadlines

Application Deadline:

Fall: November 15

Review of completed applications begins at the application deadline. Other important dates are:

- March 1 - Departmental deadline for review of completed applications
- April 15 - Admission decision deadline for completed applications

Late applications may be considered for admission if complete.

APPLY ONLINE to this graduate program.

Letters of Reference:

Number Required: 3

From Whom: Letters of recommendation should be obtained from faculty or people in industry who are familiar with the applicant's academic and/or research aptitude.

Coursework Required for Admission Consideration: It is preferred that applicants have completed laboratory courses in Biology, Chemistry, Human Anatomy and Physiology, and/or Physics.

Master’s Degree in Discipline/Related Discipline: Most applicants will have earned a master’s degree from an accredited post-secondary institution in Kinesiology with an emphasis in exercise physiology or in a related discipline.

Bachelor’s Degree in Discipline/Related Discipline: All applicants must present credentials that are the equivalent of the appropriate baccalaureate degree at Temple University.

Statement of Goals: Approximately one to two pages should be clearly written and well thought out.

Standardized Test Scores:
GRE: Required. Scores of 150 each are preferred on the verbal and quantitative sections. Occasionally, students with lower totals are accepted if undergraduate work and/or other life experiences suggest a high degree of probability of success in the graduate program.

TOEFL: 79 iBT or 550 PBT minimum

Interview: An interview is scheduled at a mutually convenient time between the faculty interviewer(s) and the applicant. With rare exceptions, an on-site interview is required for the Ph.D. program.

Resume: Current resume required.

Writing Sample: Writing sample required. The topic is flexible, but should be relevant to Kinesiology.

Advanced Standing: Students who enter the doctoral program with the master's degree may receive up to 30 credits of advanced standing toward the Ph.D. degree. The maximum number of advanced standing credits awarded is 30.

Program Requirements

General Program Requirements:

Number of Didactic Credits Required Beyond the Master's: 38

Number of Didactic Credits Required Beyond the Baccalaureate: 68

Required Courses:

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>KINS 9683</td>
<td>Mentored Research I</td>
<td>3</td>
</tr>
<tr>
<td>KINS 9783</td>
<td>Mentored Research II</td>
<td>3</td>
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<tr>
<td>KINS 9901</td>
<td>Research Methods in Physical Education I</td>
<td>3</td>
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Two intermediate or advanced-level Statistics courses: 6

Integrative Exercise Physiology Core:

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>KINS 5311</td>
<td>Physiology of Exercise</td>
<td>3</td>
</tr>
<tr>
<td>KINS 9201</td>
<td>Cardiovascular Ex Phys</td>
<td>3</td>
</tr>
<tr>
<td>KINS 9203</td>
<td>Appl Ex Physio-Neuromusc</td>
<td>3</td>
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<tr>
<td>KINS 9204</td>
<td>Cellular Adapt to Exer</td>
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Biomedical Interdisciplinary Core:

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<tr>
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<tbody>
<tr>
<td>MEDS 5003</td>
<td>Fundamentals of Biochem</td>
<td>4</td>
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<tr>
<td>or MEDS 8004</td>
<td>Macromolecules</td>
<td></td>
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<tr>
<td>MEDS 5005</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>or MEDS 5006</td>
<td>Microbio and Immunology</td>
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Bioscience Courses at School of Medicine: 6-8

Electives: 25-27

Total Credit Hours: 68

1 Contact the Department of Kinesiology for the list of approved courses.

Culminating Events:

Preliminary Examination:

All Ph.D. candidates in Kinesiology must complete the preliminary examination, which includes two requirements:

1. successful completion of a set of four questions that examine the doctoral students' competency in their subdiscipline; and
2. submission of a research article of publishable quality, as first author, to a refereed journal.

Note that a literature review does not fulfill the second requirement.

Proposal:

The dissertation proposal encompasses the first part of the dissertation: introduction, review of literature, and methodology. It is a substantive document that spells out clearly the rationale for the research, reviews the literature, and precisely identifies the methodology to be used in answering the research problem. The proposal is reviewed and approved by the Doctoral Advisory Committee (DAC), which is composed of three Graduate Faculty members. Two of the DAC members, including the Chair, must be Graduate Faculty in the student's degree program.

Dissertation:

The dissertation represents an original research study that provides a substantive contribution to the literature and is worthy of publication. As such, it is a rigorous examination of a research problem that requires extensive investigation, using quantitative and/or qualitative methodology. The Dissertation Examining Committee (DEC) must include the Chair and all members of the DAC and at least one external examiner not previously involved with the
dissertation writing or DAC. The defense is scheduled at the mutual convenience of the student and the members of the DEC. Notice is provided to the College of Public Health, which completes the necessary paperwork to announce the defense date, time, and location. The DEC reviews and discusses the defense. Overall evaluation of pass/fail with recommendations for improvements of the dissertation result.

Contacts

Program Web Address:
http://cph.temple.edu/kinesiology/degrees-offered-graduate-masters-ms-and-doctorate-phd-somatic-sciences/integrative

Department Information:
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Chairperson:
John Jeka, Ph.D.
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215-204-4405

Kinesiology Courses

KINS 5202. Biomechanical Skeletal Tissue. 3 Credit Hours.
This course offers an in-depth examination of the structure, composition, and material behavior of the basic skeletal tissues, including bone, cartilage, tendon, ligament, and muscle. The pathomechanics of injury, adaptation to loading, and degenerative changes associated with aging are analyzed.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 5237. Racial Minorities and Sport. 3 Credit Hours.
This dual-level course focuses on the positions and roles of African American and other persons of color in American sport. Topics to be covered assist in consciousness raising of both white students and students of color to the unique experiences and challenges of racial minority participants in sport.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 5239. Self-Development and Sport. 3 Credit Hours.
This group process experiential course focuses the student's attention on the patterns and practices of her/his own sport or exercise. Assessments of satisfaction and areas for change are followed by action plan development for future experiences.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.
KINS 5311. Physiology of Exercise. 3 Credit Hours.
This course is a survey of the broad spectrum of exercise physiology. The physiology concepts presented are applied to research, rehabilitation, preventive medicine, and coaching. Such topics as nutrition and performance, weight control, stress testing, and ergogenic aids are discussed in detail. Basic laboratory techniques and classical experiments are demonstrated.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 5312. Exercise and Nutrient Metabolism. 3 Credit Hours.
The scientific principles controlling the relationship between exercise, nutrition, and weight control are examined. Special emphasis is directed toward the practical application of these principles for the development of individualized weight control programs.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 5313. Exercise and Aging. 3 Credit Hours.
This course offers a study of the potential influence of exercise on the aging process. The scientific principles that govern aging processes and the influences of exercise on these processes are reviewed as well as the development of exercise programs for geriatric populations.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 8101. Creative Approaches to Teaching Physical Education. 3 Credit Hours.
This course is for elementary and secondary physical education teachers. It focuses on fostering creative behavior in learners; developing an understanding of creativity and the creative person; and demonstrating the links between creative learner behavior and the teaching behavior with which it is associated. Participants practice and receive feedback about their teaching behavior.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 8300. Seminar in Athletic Training/Sport Medicine. 1 to 3 Credit Hour.
This course is designed to provide the student with analytical skills and practical experiences relative to research as it applies to sports-related injuries.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.

KINS 8343. Orthopedics in Athletic Training/Sports Medicine. 3 Credit Hours.
This course deals with the theories and methods of orthopedic medicine as they are specifically applied to the understanding, evaluation, treatment, and rehabilitation of sports-related injuries. Course content includes general principles related to the evaluation of orthopedic and sports injury. Current theory and research related to the assessment of athletic injuries are presented.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 8344. Rehabilitation Methods and Techniques for Sports-Related Injuries. 3 Credit Hours.
This course is designed to provide the student with both the theoretical cases and some practical experience relative to rehabilitation therapy as it applies to sports-related injuries. Topics to be covered include manual muscle testing, goniometry, theories of pain and its management, and various therapeutic exercise modalities.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 8348. Lab Tech in Ath Train. 3 Credit Hours.
This is a 3-credit course specifically designed for students currently enrolled in the graduate athletic training program. This course will provide students with knowledge and application of selected laboratory instrumentation utilized in the athletic training division of the Biokinetics Research Laboratory. Topics include, but are not limited to, instrumentation used in testing of the following areas: pain threshold, strength, motion analysis, electromyography, postural control, and protein assays.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 8349. Cadaver Anatomy. 3 Credit Hours.
This course is designed for students currently enrolled in the graduate athletic training education program. This course will provide students with knowledge and application of gross human anatomy, injury pathomechanics, and evaluation. Topics include, but are not limited to, laboratory experiences in the following areas: skeletal, muscular, nervous, cardiovascular, and respiratory systems.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 8500. Symposium in Kinesiology. 3 Credit Hours.
This course provides an opportunity for an in-depth examination of a special topic of interest, generally in a smaller class setting.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.
KINS 9101. Pedagogy in Higher Ed. 3 Credit Hours.
This course provides the student with an introduction to the pedagogical processes that can enhance instructional delivery in higher education, preparing the student to become a more effective teacher/professor at the college/university level.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9102. Measurement & Eval in PE. 3 Credit Hours.
Investigates psychometrics as they apply to kinesiology. Assessments' role within education is explored, technology's impact on measurement and evaluation is examined. Psychomotor, cognitive and affective domains serve as the basis for constructing instruments and tests.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9103. Analytic Study of Teach. 3 Credit Hours.
Systematic study of the teaching process and environments for learning for analyzing student's own teacher behavior. Information from research on teaching in the psychomotor, cognitive, and affective domains introduced to support these conceptual frameworks.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9104. Curriculum in Phys Ed. 3 Credit Hours.
Examines the meaning and purpose of curriculum, its components and levels, and basic curriculum writing skills. Emphasis placed on examining the scope and sequence of various organizing centers such as sport, fitness, movement, dance, aquatics, adventure, personal protection, social skill, etc.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9201. Cardiovascular Ex Phys. 3 Credit Hours.
A comprehensive cardiovascular exercise physiology course that emphasizes the mechanisms of regulatory function of the cardiovascular system during acute physical activity and the mechanisms of the adaptive response to exercise training.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9203. Appl Ex Physio-Neuromusc. 3 Credit Hours.
Principles of neurophysiological regulatory mechanisms of muscle contraction. Skeletal muscle physiology including muscle fiber types, neuromuscular junction, motor unit recruitment and fatigue will be discussed. Mechanisms of adaptation in skeletal muscles and the biomedical adaptations produced by increased and decreased use are discussed with emphasis on cell signaling and genomics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
KINS 5311|May not be taken concurrently.

KINS 9204. Cellular Adapt to Exer. 3 Credit Hours.
Control and regulatory mechanisms at the tissue and cellular levels during exercise; Mechanisms of adaptation in cells and tissues and the biomedical adaptations produced by training are discussed, with emphasis on genomics and cell signaling.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits
Pre-requisites:
(KINS 4311|May not be taken concurrently)
(OR KINS 5311|May not be taken concurrently)
AND (KINS 9203|May not be taken concurrently).

KINS 9205. Exer Testing & Prescrip. 3 Credit Hours.
Enhances the knowledge and skills of persons interested in preventive and rehabilitative exercise programs. Exercise in the diagnosis, prevention, and rehabilitation of coronary heart disease, as well as the techniques of exercise stress testing. Emphasizes the development of exercise prescriptions from graded exercise test data.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9206. Intro to Environ Physiol. 3 Credit Hours.
Mechanisms of physiological response of healthy person to desert, arctic, mountain, and undersea environments. Effects of environmental stresses upon exercise performance. Principles of human thermoregulation are demonstrated in a laboratory setting.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.
KINS 9287. Athletic Training/Sports Medicine Practicum I. 1 to 6 Credit Hour.
This is a practicum in which the student satisfies the 200-hour requirement by serving as an athletic trainer in a NATA-approved allied-health setting such as the Temple University Sports Medicine Clinics. Students perform athletic training duties under the supervision of certified athletic trainers and orthopedic surgeons.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.

KINS 9288. Athletic Training/Sports Medicine Practicum II. 1 to 6 Credit Hour.
This is a practicum in which the student satisfies the 200-hour requirement by serving as an athletic trainer in a NATA-approved allied-health setting such as the Temple University Sports Medicine Clinics. Students perform athletic training duties under the supervision of certified athletic trainers and orthopedic surgeons.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.

KINS 9301. Motor Development. 3 Credit Hours.
This course is designed to study human movement across the lifespan through the review and critique of major theoretical positions and the analysis of selected movement patterns.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9302. Motor Learning. 3 Credit Hours.
This course is designed to study the acquisition and retention of motor skills as related to practice schedules, information processing, and motor control.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9311. Biomechanics: Human Movement. 3 Credit Hours.
This course offers an assessment of research in the biomechanics of human motion, including electromyography, muscle modeling, link segment modeling and analysis, and energy and power analysis. The above concepts are utilized in the assessment of both normal and atypical populations in sport and rehabilitation contexts.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9401. Psychological Bases of Motor Behavior. 3 Credit Hours.
This course focuses on the psychology of motor behavior, with particular emphasis on motor learning and motor development.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9402. Psychology of Human Motivation and Development. 3 Credit Hours.
This course focuses on the basic psychological variables that influence, and are influenced by, human movement. A diverse set of topics within exercise and sport psychology is explored.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9403. Sociology of Kinesiology. 3 Credit Hours.
This course focuses on the social structural/contextual variables that influence, and are influenced by, human movement. Among the variables examined are socioeconomic status, gender, race, ethnicity, sexual preference, dominant-subordinate perceptions, and value formation and conflict.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9404. Exercise and Mental Health. 3 Credit Hours.
This course provides the student with a background in theory, research, and applied work in the relationship between exercise and mental health.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9405. Psychosocial Interactions and Skilled Performance. 3 Credit Hours.
Research is reviewed and designed in this course, with a focus on the enhancement of performance in both competitive and expressive settings. Applied sports psychology consulting programs are reviewed and designed.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9406. Psychosocial Testing in Exercise and Sport Psychology. 3 Credit Hours.
This course provides the student with a background in test and measurement approaches within exercise and sport psychology, focusing on various measurement approaches/techniques as well as specific tests and measures.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.
KINS 9407. Obesity and Eating Disorders. 3 Credit Hours.
This is a graduate course that aims to provide a comprehensive understanding of obesity and eating disorders. It will focus on kinesiology and its relation to the etiology of the disorder, its prevalence, classification, diagnosis, and treatment and prevention. These issues will be discussed in terms of their psychosocial, behavioral, and physiological aspects.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9683. Mentored Research I. 3 Credit Hours.
This course exposes the Ph.D. student to the basic nature of Behavioral and Somatic Science research. Learning experiences consist of journal article review, laboratory/field techniques, and subject or data collection exposure as directed by faculty mentors.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.

KINS 9783. Mentored Research II. 3 Credit Hours.
This course provides the Ph.D. student with the opportunity to be involved in research, under the direction of the faculty mentor, as the assistant project director and as the project director for pilot studies. The student gains experience in these roles with close supervision by the faculty mentor.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.
Pre-requisites:
KINS 9683|Minimum Grade of B-|May not be taken concurrently.

KINS 9785. Internship in Kinesiology. 3 to 6 Credit Hours.
This course provides supervised field and/or clinical experiences in psychological aspects of sport/physical activity, and exercise science.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.

KINS 9882. Independent Research. 1 to 12 Credit Hour.
Students present a proposal to the instructor, who advises them on their project. Prior to registration, students obtain a letter of agreement from the department Chair indicating the number of credits involved.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.

KINS 9901. Research Methods in Physical Education I. 3 Credit Hours.
This course focuses on basic understanding of research methods and related techniques necessary to evaluate research literature in physical education and related fields. Attention is given to the selection of research problems.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

KINS 9994. Preliminary Examination Preparation. 1 to 3 Credit Hour.
This course is for students who have completed all coursework and have not passed the preliminary examination.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.

KINS 9995. Master’s Research in Physical Education. 1 to 3 Credit Hour.
This course is open to Master of Science candidates doing either the project option or the first three credits of the thesis option.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education
Repeatability: This course may be repeated for additional credit.

KINS 9996. Master's Thesis in Physical Education. 3 Credit Hours.
This course is open only to Master of Science candidates completing the last three credits of the thesis option.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Education
Repeatability: This course may be repeated for additional credit.

KINS 9998. Pre-Dissertation Research. 3 Credit Hours.
This course provides an opportunity for continuous registration during the Fall and Spring terms as required to work on the dissertation proposal, once Preliminary Exams have been completed (once the dissertation proposal has been approved by the Dissertation Sponsoring Committee, the student would take KIN 9999, Doctoral Dissertation in Kinesiology).
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.
**KINS 9999. Doctoral Dissertation in Physical Education. 1 to 9 Credit Hour.**

Limited to candidates for the doctoral degree. This offers continuous registration during the Fall and Spring terms as required from after completion of the preliminary examination until the dissertation has been completed and accepted by the graduate faculty.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Philosophy

**Student Attribute restrictions:** Must be enrolled in one of the following Student Attributes: Dissertation Writing Student

**Repeatability:** This course may be repeated for additional credit.

### School of Medicine Courses

**MEDS 5003. Fundamentals of Biochem. 4 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may not be repeated for additional credits.

**MEDS 5004. Fundamentals of Physiology. 4 Credit Hours.**

Fundamentals of Physiology addresses important topics including membranes and membrane transport, excitation and contraction of skeletal, smooth and cardiac muscle, the heart and blood flow, renal physiology and lung physiology. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may not be repeated for additional credits.

**MEDS 5006. Microbio and Immunology. 4 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may not be repeated for additional credits.

**MEDS 5007. Human Anatomy. 4 Credit Hours.**

Human Anatomy provides instruction in gross anatomy for postbac students. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may not be repeated for additional credits.

**MEDS 5008. Medical Pharmacology. 4 Credit Hours.**

Medical Pharmacology provides instruction in pharmacology for postbac students. Important medically related examples will be discussed. Course syllabus will be provided by the course director.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may not be repeated for additional credits.

**MEDS 5009. Biochemistry of Life Systems. 2 Credit Hours.**

This course provides students with an understanding of the basic principles of biochemistry related to pre-health competencies tested by the MCAT. Topics related to these competencies include: protein structure and function; enzyme function and regulation; transmission of genetic information, membrane structure and composition, bioenergetics, fuel metabolism and cell signaling. NOTE: This course fulfills a requirement for students enrolled in the Basic Core in Medical Sciences (BCMS) Post Baccalaureate Program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may not be repeated for additional credits.

**MEDS 5010. Special Topics in Medicine. 3 Credit Hours.**

Special Topics in Medicine discusses important topics in medicine including translational research and evidence based medicine for postbac students. Course syllabus will be provided by the course director.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may be repeated for additional credit.

**MEDS 8004. Macromolecules. 4 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may not be repeated for additional credits.

**MEDS 8010. Seminar Clinical Res. 1 Credit Hour.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may be repeated for additional credit.

**MEDS 8020. Crit Lit Clin Transl Res. 2 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may be repeated for additional credit.

**MEDS 8030. Grant Writing: Clin Res. 2 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate

**Repeatability:** This course may be repeated for additional credit.
MEDS 8051. Intro to Biostatistics. 3 Credit Hours.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may not be repeated for additional credits.

MEDS 9995. Res Prjct Clin/Trnsl Med. 1 to 6 Credit Hour.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate
Repeatability: This course may be repeated for additional credit.