

**UNIVERSITY OF SOUTH CAROLINA**  
COLUMBIA CAMPUS

**PROPOSAL TO THE SOUTH CAROLINA COMMISSION ON HIGHER EDUCATION  
FOR PROGRAM MODIFICATION, CHANGING CIP CODE  
FROM 31.0505 TO 26.0908**

**SUBMITTED AUGUST 2009**

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PRESIDENT  
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## **CLASSIFICATION**

Name of Proposed Program:	Graduate Division, Exercise Science
Academic Unit Involved:	Exercise Science Department School of Public Health University of South Carolina, Columbia
Campus	
Designation of Degree:	Master of Science (M.S.) Doctor of Philosophy (PhD)
Proposed Date of Implementation:	Spring 2010
CIP code:	currently 31.0505, Proposing reclassification to 26.0908
Identification of program as New or Modified:	Modified
Site: Campus	University of South Carolina, Columbia
Program qualifies for supplemental Palmetto Fellows Scholarship and LIFE Scholarship Awards:	No
Delivery Mode:	Traditional

## **JUSTIFICATION**

The University of South Carolina – Columbia requests approval to reclassify the graduate programs of the Exercise Science Department from CIP Code 31.0505 to **26.0908**. The Exercise Science department in the Arnold School of Public Health, ranked #1 in the nation by Academic Analytics in 2007, was formed in 1989 when Exercise Science became a unit within the School of Public Health and Physical Education joined the College of Education. This change marked a conscious move towards a more scientific approach in better understanding the relationship between physical activity, regular practiced exercise and health. CIP codes assigned to the newly formed department at the time did not reflect the breadth of disciplines, nor the science found, within the study of exercise. The newer code proposed here, 26.0908, developed by NCES in 2000, describes more accurately the sciences, the educational and research practices, and the interests found in the Department of Exercise Science at the University of South Carolina – Columbia.

### **Purpose and Objectives:**

The mission of the Department of Exercise Science is to expand and disseminate the body of knowledge concerning the scientific relationships between exercise participation, physical activity and human health. Through an active, nationally-recognized research agenda, the

department seeks to better understand and describe the mechanisms responsible for the effects that physical activity has on human physiology, both as a result of single exercise session and as exercise training adaptations made over time. The department received approximately \$5,000,000 in research funding during the 2008-2009 year from sources such as the National Institutes of Health (NIH), the Department of Defense and DARPA, the Gatorade Sports Science Institute, and the Institute of Nutraceutical Research, and has averaged \$3,000,000 to \$4,000,000 per year in research funding during the previous 5 year period. Further, as a unit within the Arnold School of Public Health, all of the Exercise Science programs actively work to apply this knowledge towards understanding the nature and prevention of injury, disease, and disability. Together, these educational and research opportunities provide graduate students superior skills in scientific inquiry process and allows the students to go forth after graduation and develop careers in the fields of medicine, physical activity, exercise and public health.

### **Program Need:**

A career in the field of Public Health requires the collaboration of many disciplines ranging from Physiology, Epidemiology, Psychology, and Health Management. Whereas in previous years the study of physical activity and exercise has not been traditionally addressed in medical schools, this past approach is changing, and medical schools are placing more focus on exercise as a treatment option. Meanwhile, the field of Public Health has long recognized the potential for exercise to serve as a valuable intervention in improving the health of individuals and groups of people or communities. Crucial to these public health aims is a better understanding of human anatomy and physiology, both at rest and how it changes or responds to the stimulus of physical activity.

The department currently offers several graduate programs of study. There are three divisions of study in which students can seek either a Master of Science (M.S.) or Doctor of Philosophy (PhD): Applied Physiology, Health Aspects of Physical Activity, and Motor Control and Rehabilitation. Each of these areas takes a slightly different approach to answering the questions of how the body responds to physical activity and how this knowledge can help us improve public health. As science and medicine advance, an essential need has evolved to understand the body's responses and adaptations to exercise on a molecular, cellular and physiological level if physical activity is going to be effectively utilized as a "medicine" for aging, disuse, injury, disease and even genetic determinants.

The graduate division to the department also offers two separate programs not included in this request for program modification. One is a Doctorate in Physical Therapy (DPT). USC-Columbia was one of the first universities in the nation to offer a DPT program, which reflects the demand for therapy professionals who are able to improve the field through their skills of scientific inquiry. In addition, the Exercise Science Department now offers a Masters in Public Health in Physical Activity and Public Health. This program is the first in the nation of its kind, preparing students to become scholars and researchers in the study of how physical activity can improve public health.

The student demand for the programs in Exercise Science is readily evidenced by the huge rate of growth in the graduate programs. Since 2004, the overall graduate division has increased by 47%, with most of the growth seen in the M.S. and PhD programs. Careers in all aspects of health-care, from research to clinical care to the making of public policy, are expected to continue growing in the future, and having an educational background rooted in scientific inquiry is invaluable to any of these pathways. Graduates from the USC-Columbia Exercise Science Department are contributing to the health community in a variety of ways, such as MD's,

physical therapists, professors and researchers. Our alumni can be found at the National Cancer Institute, the Center for Disease Control, the Cooper Institute, and several universities across the nation.

### **Relationship of the Proposed Program to other Programs within the University:**

While there are many connections between Exercise Science and many of the more traditional scientific disciplines found in a university setting, the degrees offered through the department occupy a special niche within the university. Only in Exercise Science are students given the opportunity to extend the study of human physiology into meaningful health interventions such as physical activity and exercise training. Programs offered through Biology or Chemistry may study the same physiological mechanisms but do not necessarily apply them to physical activity. Physical Education deals with physical activity, but its graduate programs focus on how exercise is implemented rather than scrutinizing the pathways by which physical activity changes human physiology. The work of the USC Medical School, researching the nature of injury and disease and educating students about possible interventions, is similar to the work of the Exercise Science, but without the emphasis on physical activity.

In short, Exercise Science is the only available route at the University of South Carolina for students who wish to not only study the workings of the human body, but also the impact of physical activity and exercise on human physiology and biochemistry, to better understand the health implications for dealing with chronic diseases and disabilities. Blending several academic disciplines and achieving an integrative study of the human body through Exercise Science is consistent with the dynamic nature of research in physical activity and strengthens the overall mission of the department. The overall result of this approach are highly trained researchers, physicians and therapists who, through employment opportunities, foster new interdisciplinary collaborations that will provide better patient medical management and improved health care and public health.

### **Similarities and Differences Between USC's Exercise Science Program and Those Offered at Other Institutions:**

The Exercise Science program at USC has served as a model for other programs nationally. Among many of the department's peer institutions, the department shares the older code of 30.0505. However, in most of those cases, such as University of Georgia, University of Michigan, and the University of Maryland, the departments have maintained strong ties with Physical Education (for which this code was developed) as reflected in curricula that feature athletic training, sports management or commerce, and recreational programming. Perhaps the most persuasive precedent to cite is the Kinesiology program at the University of Massachusetts-Amherst. This program was the second Exercise Science program in the country to form within a school of Public Health. The faculty in Exercise Science at UMass-Amherst modeled their program after USC-Columbia's, as USC was the first university to include in a school of Public Health an Exercise Science or Kinesiology program. The Kinesiology program at UMass-Amherst also possesses the updated CIP code of 26.0908 that is sought in this program modification proposal.

Within the state of South Carolina, however, there are no other institutions offering graduate programs in Exercise Science.

## **Enrollment**

### **Admissions Criteria:**

Master's degree applicants should have successfully completed a baccalaureate degree and the following course work before entering the program: Biology I and II with Laboratory, Chemistry I and II with Laboratory, Anatomy & Physiology I and II with Laboratory and Exercise Physiology (preferable). PhD applicants should have completed the equivalent of a Master's degree in Exercise Science before entering our program. All applicants need to take the Graduate Record Exam (GRE) and the doctoral programs require a minimum combined score of 1000 on the Verbal and Quantitative portions of the exam.

<b>Actual and Projected Total Enrollments</b>						
Year	Fall		Spring		Summer	
	Headcount	Credit Hours <sup>1</sup>	Headcount	Credit Hours <sup>1</sup>	Headcount <sup>2</sup>	Credit Hours <sup>3</sup>
2007-2008	41	492	41	492	39	234
2008-2009	61	732	61	732	58	348
2009-2010	67 <sup>4</sup>	804	67	804	64	384
2010-2011	79 <sup>5</sup>	948	79	948	75	450
2011-2012	94	1128	94	1128	89	534
2012-2013	112	1344	112	1344	106	636
2013-2014	133	1596	133	1596	126	756

<sup>1</sup> Based on 12 credit hours per semester

<sup>2</sup> Based on 95% of graduate students attending summer session

<sup>3</sup> Based on 6 credit hours over the summer per student

<sup>4</sup> Current enrollment

<sup>5</sup> Based on average annual growth of 18.8% over the previous 5 years

Enrollment in the Exercise Science graduate degree programs has increased significantly over the last 5 years as more students have recognized its value as an effective preparatory program for a variety of careers in the Public Health field and an increase in funding opportunities due to successful research efforts on the part of the faculty. Enrollment in summer sessions stays high as graduate assistants continue to work on their academic and research programs.

<b>Estimated New Enrollment <sup>6</sup></b>						
Year	Fall		Spring		Summer	
	Headcount	Credit Hours <sup>1</sup>	Headcount	Credit Hours <sup>1</sup>	Headcount <sup>2</sup>	Credit Hours <sup>3</sup>
2009-2010	33 <sup>4</sup>	396	33	396	31	186
2010-2011	39 <sup>5</sup>	468	39	468	37	222
2011-2012	47	564	47	564	45	270
2012-2013	56	672	56	672	53	318
2013-2014	66	792	66	792	63	378

<sup>6</sup> Headcounts are not cumulative from year to year.

## **Curriculum**

### **Exercise Science, Graduate Division Master of Science (M.S.)**

#### Sample Masters of Science Curriculum – Applied Physiology (39-42 hours)

*Exercise Science (15-21 hours)*

*Research/Statistical Methods (3-9 hours)*

*Selectives (6-18 hours)*

*Project (3 hours) or Thesis (6 hours)*

#### Required Courses for All Exercise Science MS Students (6 hours)

BIOS 700 – Introduction to biostatistics or equivalent (3)

EXSC 700 – Exercise and Public Health (3)

#### Required Courses for Applied Physiology Track (11 hours)

EXSC 742 – Clinical Exercise Testing (1)

EXSC 743 – Laboratory Measurements for Exercise Testing (1)

EXSC 780 – Physiology of Exercise (3)

EXSC 781 – Physiology, Exercise, and Disease (3)

EXSC 783 – Seminar in Exercise Science (1h, 3h required)

#### Additional Exercise Science Courses Available for Applied Physiology

EXSC 755 – Selected Topics in Exercise Science (3)

EXSC 784 – Cardiovascular Testing & Programming (3)

EXSC 785 – Advanced Exercise Physiology Laboratory (3)

EXSC 790 – Independent Study (1-3h, repeatable up to 6h)

EXSC 880 – Myology (3)

EXSC 881 – Advanced Cardiorespiratory Exercise Physiology (3)

EXSC 883 – Physical Activity, Chronic Diseases & Disabilities (3)

#### Selectives (6-18 hours)

Students, in consultation with their advisor, must develop a program of study which allows students to focus in a defined area.

#### Thesis or Project (3-6 hours)

EXSC 798 (3 for project) or EXSC 799 (6 for thesis)

**Total: 39-42 Hours**

#### Sample Masters of Science Curriculum – Health Aspects of Physical Activity (39-42)

*Exercise Science (15-21 hours)*

*Research/Statistical Methods (3-9 hours)*

*Electives (6-18 hours)*

*Project (3 hours) or Thesis (6 hours)*

#### Required Courses for MS Students (6 hours)

BIOS 700 – Introduction to biostatistics or equivalent (3)

EXSC 700 – Exercise and public health (3)

Required Courses for Health Aspects of Physical Activity (9 hours)

BIOS 757 – Intermediate biostatistics (3)  
EPID 700 – Introduction to epidemiology (3)  
HPEB 700 - Concepts and methods in health promotion (3)  
or HPEB 702 -Planning health promotion programs (3)

Additional Courses Available for Health Aspects of Physical Activity (9 hours)

EXSC 710 – Behavioral aspects of physical activity (3)  
EXSC 780 – Physiology of Exercise (3)  
EXSC 781 – Physiology, Exercise, & Disease (3)  
EXSC 784 - Cardiovascular/Pulmonary Testing and Programming (3)  
EXSC 778 – Exercise and childhood obesity (3)  
EXSC 779 – Exercise physiology of children and youth (3)  
EXSC 783 – Physical activity and the aging process (3)  
HPEB 701 - Theoretical foundations of health promotion (3)  
HPEB 710 – Evaluation of health promotion programs (3)

Selectives (6-18 hours)

Students, in consultation with their advisor, must develop a program of study which allows students to focus in a defined area.

Thesis or Project (3-6 hours)

EXSC 798 (3 for project) or EXSC 799 (6 for thesis)

**Total: 39-42 Hours**

Sample Masters of Science Curriculum – Motor Control and Rehabilitation (39-42 hours)

*Exercise Science (15-21 hours)*  
*Research/Statistical Methods (3-9 hours)*  
*Selectives (6-18 hours)*  
*Project (3 hours) or Thesis (6 hours)*

Required Courses for All Exercise Science MS Students (6 hours)

BIOS 700 - Introduction to biostatistics or equivalent (3)  
EXSC 700 – Exercise and Public Health (3)

Required Courses for Motor Control and Rehabilitation (12 hours)

EXSC 731 – Mechanisms of Motor Skill Performance (3)  
EXSC 782 – Biomechanical Analysis of Motor Skills (3)  
PHYT 762 – Neuromuscular Conditions (3)  
EXSC 790 – Independent Study in Motor Development (3)

Additional Courses Available for Motor Control and Rehabilitation (9-12)

EXSC 563 - Physical Activity and Aging (3h, Spring)  
EXSC 795 - Internship in Exercise Science (3h, Fall or Spring)  
PSYC 730 - Survey of Biological Psychology (3h, Fall)  
BIOS 757 - Intermediate Biostatistics (3h, Spring)  
BIOS 840 - Research Design in the Biomedical Sciences or equivalent (3h)  
EPID 700 - Introduction to Epidemiology (3h, Fall or Spring)  
HPEB 710 - Evaluation of Health Promotion Programs (3h, Spring)

Selectives (6-18 hours)

Students, in consultation with their advisor, must develop a program of study which allows students to focus in a defined area.

Thesis or Project (3-6 hours)

EXSC 798 (3 for project) or EXSC 799 (6 for thesis)

**Total: 39-42 Hours**

**Sample MS Academic Plan (Applied Physiology track)**

**Year 1**

Fall Semester

3 Bios 700 – Introduction to Biostatistics  
1 EXSC 742 – Clinical Exercise Testing  
3 EXSC 780 – Physiology of Exercise  
1 EXSC 783 – Seminar in Exercise Science

Spring Semester

3 EXSC 700 – Exercise and Public Health  
1 EXSC 743 – Laboratory Measurements for Exercise Testing  
3 EXSC 781 – Physiology, Exercise, and Disease  
1 EXSC 783 – Seminar in Exercise Science

Maymester / Summer Options

3 EXSC 784 – Cardiovascular Testing & Programming  
3 EXSC 785 – Advanced Exercise Physiology Laboratory  
1-3 EXSC 790 – Independent Study EXSC  
3 EXSC 755 – Selected Topics in Exercise Science

**Year 2**

Fall Semester

1 EXSC 783 – Seminar in Exercise Science  
*Options:* 3 EXSC 880, 881 or 883  
3-4 Elective  
1-3 EXSC 790 – Independent Study EXSC

Spring Semester

EXSC 798 or 799 – Project or Thesis  
*Options:* 1-3 EXSC 790 – Independent Study EXSC  
3-4 Elective

## Doctor of Philosophy (PhD)

### Doctor of Philosophy Curriculum (up to 60 hours)

Students will complete an approved plan of study of up to 60 hours beyond the master's level. The plan of study is developed between the student and their advisor, and then approved by division faculty. All students are required to complete course hours as follows:

*Exercise Science (12-18 hours)*  
*Research/Statistical Methods (6-12 hours)*  
*Selectives (18-30 hours)*  
*Dissertation (12 hours)*

Selectives should be completed in the student's specific area of emphasis. Programs of study are developed by the students in consultation with the Division faculty (Applied Physiology, Health Aspects of Physical Activity, or Motor Control and Rehabilitation). The program of study must conform to requirements described in the Handbook for Graduate Students in Exercise Science and must be approved by the student's advisor and the Division faculty.

### **Sample Applied Physiology Course Options**

#### **Exercise Science**

EXSC 783 – Seminar in Exercise Science (*1hr, repeatable up to 5 hr\*; required*)  
EXSC 785 – Advanced Exercise Physiology Laboratory (3)  
EXSC 790 – Independent Study in Exercise Science (*6 - 12hr total*)  
EXSC 880 - Myology and Exercise Science (3)  
EXSC 881 - Advanced Cardiorespiratory Exercise Physiology (3)  
EXSC 883 - Physical Activity, Chronic Disease, and Disabilities (3)

#### **Biology**

BIOL 543 - Comparative Physiology (3)  
BIOL 748 - Molecular Endocrinology (3)

#### **Immunology/Microbiology**

MBIM 710 - Advanced Immunobiology  
MBIM 720 - Comprehensive Microbiology  
BMSC 702 - Medical Cell Biology

#### **Chemistry**

CHEM 751 - Biosynthesis of Macromolecules (3)  
CHEM 752 - Regulation & Integration of Metabolism (3)  
CHEM 753 - Enzymology and Protein Chemistry (3)

#### **Pharmacology**

PCOL 705 - Biomedical Pharmacology (6)  
PCOL 735 - Cardiovascular Pharmacology (3)  
PCOL 745 - Metabolic Pharmacology (3)  
PCOL 750 - Protein Phosphorylation

#### **Neuroscience/Psychology**

PSYC 560 - Advanced Physiological Psychology (3)  
BMSC 740 - Neuroscience  
PHPH 745 -Neurophysiology  
CBNS 761 - Advanced Reproductive Neuroendocrinology

**Physiology**

- PHYL 701 - Physiology for Health Sciences (6)
- PHYL 735 - Cardiovascular Physiology (3)
- PHYL 745 - Neurophysiology (3)
- PHYL 755 - Endocrine & Reproductive Physiology (3)

**Sample Health Aspects of Physical Activity Course Options****Exercise Science**

- EXSC 710 - Behavioral Aspects of Physical Activity (3)
- EXSC 754 - Community-Based Physical Activity Interventions (3)
- EXSC 778 - Exercise and Childhood Obesity (3)
- EXSC 863 - Physical Activity and the Aging Process (3)
- EXSC 881 - Advanced Cardiorespiratory Exercise Physiology (3)
- EXSC 882 - Physical Activity and Health (3)
- EXSC 883 - Physical Activity, Chronic Disease, and Disabilities (3)

**Epidemiology**

- EPID 700 - Introduction to Epidemiology (3)
- EPID 701 - Concepts and Methods of Epidemiology (3)
- EPID 744 - Investigative Epidemiology: Cardiovascular Disease (3)
- EPID 820 - Seminar in the Epidemiology of Health Effects of Physical Activity (3)

**Psychology**

- PSYC 727 - Foundations in Community Psychology (3)
- PSYC 783 - Health Psychology/Behavioral Medicine (3)

**Health Promotion Education and Behavior**

- HPEB 701 - Theoretical Foundation of Health Education (3)
- HPEB 710 - Evaluation for Public Health Education Programs (3)
- HPEB 731 - Health Promotion for Older Adults (3)
- HPEB 748 - Community Health Development (3)
- HPEB 752 - Nutrition and Public Health (3)

**Sample Motor Control and Rehabilitation Course Options****Exercise Science**

- EXSC 563 - Physical Activity and the Physical Dimensions of Aging (3)
- EXSC 700 - Exercise and Public Health (3)
- EXSC 778 - Exercise and Childhood Obesity (3)
- EXSC 782 - Mechanical Analysis of Motor Skills (3)
- EXSC 831 - Mechanisms of Motor Skill Performance II (3)
- EXSC 832 - Research Practicum in Motor Learning/Motor Performance (3)
- EXSC 862 - Analysis of Motor Impairments (3)
- EXSC 863 - Physical Activity and the Aging Process (3)

**Anatomy**

- ANAT 701 - Human Embryology and Gross Anatomy (8)
- ANAT 703 - Human Neuroanatomy (3)

**Nursing**

- NURS 753 - Primary Care of Older Adults (3h)
- NURS 755 - Restorative Care of Older Adults (3h)

### **Physical Therapy**

PHYT 750 – Orthopaedic Physical Therapy (4h)  
PHYT 751 – Orthopaedic Physical Therapy (4h)  
PHYT 762 – Neuromuscular Conditions (3h)  
PHYT 806 – Clinical Pathology-Differential Diagnosis (3h)  
PHYT 810 – Neuromuscular Assessment & Treatment (4h)  
PHYT 811 – Pediatrics and Orthotics (3h)

### **Psychology**

PSYC 700 – Psychosocial Approaches to Gerontology (3h)  
PSYC 732 - Assessment in Clinical Neuropsychology (3h)  
PSYC 733 – Neuropsychology of Learning Disabilities (3h)  
PSYC 751 – Survey of Developmental Psychology (3h)

### **Medicine**

MEDI 700 – Medical Aspects of Aging (3h)

### **Neuroscience/Psychology**

PSYC 560 - Advanced Physiological Psychology (3h)  
BMSC 740 - Neuroscience (3h)  
PHPH 745 - Neurophysiology (3h)

### **Explanation of the assessments of student learning outcomes to be used:**

This program will be assessed by evaluating student outcomes and the assessment process will be reviewed by and approved by the School of Public Health to ensure that it will meet SACS accreditation requirements. Evaluating the goals and objectives of the program and tying them to specific learning objectives, coupled with annual reporting of results and use of results, will allow the program to develop and improve.

## **Faculty**

### **Rank and Academic Qualifications**

<b>List of Staff by Rank</b>	<b>Highest Degree Earned</b>	<b>Field of Study</b>
Professor	PhD	Exercise Physiology/Medical Physiology
Professor	PhD	Exercise Physiology/Neuroscience
Professor	P.E.D.	Physical Education
Professor	PhD	Exercise Physiology
Professor	PhD	Motor Development/Experimental Physiology
Associate Professor	PhD	Exercise Science
Associate Professor	PhD	Physiology
Associate Professor	PhD	Clinical Psychology
Assistant Professor	PhD	Health Education and Behavior Change
Assistant Professor	MD	Medicine/Immunology
Assistant Professor	PhD	Kinesiology
Assistant Professor	PhD	Cognitive Neuroscience
Assistant Professor	PhD	Exercise Psychology
Clinical Assoc Professor	PhD	Nutrition/Exercise & Sports Science
Clinical Asst Professor	PhD	Exercise Physiology
Research Professor	PhD	Health Behavior and Health Education
Research Assoc Professor	PhD	Exercise Science
Research Asst Professor	PhD	Exercise Physiology

### New faculty and staff to be added in support of the program

As this program is already in existence, there is no immediate need to increase faculty or staff in relation to this modification proposal specifically. Any immediate needs for increasing personnel resources are due to the growth of the department and desire to add to or improve the curriculum through additional course offerings.

### Institutional Plan for Faculty Development

Ongoing evaluation and mentoring of faculty in the areas of teaching, research and service are the responsibility of the School of Public Health. The policies and procedures for faculty development within the school are published by the Office of Academic Affairs at

<http://www.sph.sc.edu/academicaffairs/policies.htm>

### Definition of Full Time Equivalent (FTE's)

For USC faculty, 1.0 FTE is recognized as a faculty position in which a faculty member is under full-time contract and for which the faculty member meets the requirements of his assigned teaching, service and research obligations. Assigned credit hours of instructional load vary widely among faculty and departments.

Unit Administration/Faculty/Staff Support						
YEAR	NEW		EXISTING		TOTAL	
	Headcount	FTE	Headcount	FTE	Headcount	FTE
<b>Administration</b>						
2009-2010	0	0	3	.75	3	.75
2010-2011	0	0	3	.75	3	.75
2011-2012	0	0	3	.75	3	.75
2012-2013	0	0	3	.75	3	.75
2013-2014	0	0	3	.75	3	.75
<b>Faculty</b>						
2009-2010	1	0.5	18	9.0	19	9.5
2010-2011	0	0	19	9.5	19	9.5
2011-2012	0	0	19	9.5	19	9.5
2012-2013	0	0	19	9.5	19	9.5
2013-2014	0	0	19	9.5	19	9.5
<b>Staff</b>						
2009-2010	0	0	3	1.5	3	1.5
2010-2011	0	0	3	1.5	3	1.5
2011-2012	0	0	3	1.5	3	1.5
2012-2013	0	0	3	1.5	3	1.5
2013-2014	0	0	3	1.5	3	1.5

<sup>1</sup> Three faculty members each contribute .25 FTE to the administration of the program as Department Chair, Graduate Director and Assistant Graduate Director respectively.

<sup>2</sup> Faculty and staff members of the Exercise Science Department split their full-time appointments between graduate and undergraduate instruction and support, 0.5 FTE each.

The department chair has proposed to add one new full-time faculty position for the 2009-2010 year. This position is a direct result of the increases in the size of the Exercise Science Department.

## **Physical Plant**

Since this is an existing program, existing classroom and office space is adequate. With the recent growth of the program, it may become necessary to seek additional classrooms, laboratory and administrative space. However, growth is an issue separate from the purpose of this proposal.

## **Equipment**

It is anticipated that only the commonly used items, such as textbooks and laboratory equipment, for instruction and research will be necessary for the continued operation of the Exercise Science graduate program. These supplies are already part of the department's annual budget and will be replaced or supplemented as part of the department's expected growth and improvement.

## **Library Resources**

Exercise Science is a multidisciplinary field involving research in the basic and applied sciences as well as teaching in the basic and applied sciences requiring resources in a variety of natural sciences as well as experimental scientific fields such as biostatistics, epidemiology, and psychology. The strength of the USC Library System's collection is that it supports teaching and research in all required subject areas. The latest rankings from the Association of Research Libraries shows the University of South Carolina libraries are ranked 49<sup>th</sup> in North America in collection size with over 3,500,000 volumes. Our collections support a broad range of activities from high level research conducted by faculty to basic information needs of graduate students.

Exercise Science is an interdisciplinary field and the Library's collections strongly support the necessary topics including biology, biochemistry, psychology, medicine and public health. Combining these subjects, the Library subscribes to over 500 different journals that can be accessed directly or through 35 searchable databases. Included in these indexes are ScienceDirect, Science Citation and Medline access to PubMed. These resources are available to students at the library and remotely through use of proxy authentication. Access to this array of resources is further simplified by Gamecock Power Search which allows users to simultaneously search all the available databases across multiple disciplines. In addition to the many book titles held on site, additional titles are available for 2-day delivery from across the state through the PASCAL consortium.

In order students to effectively use the USC Library collections, the library offers many services to students. USC students are eligible to use the interlibrary loan service to borrow materials not held locally. Reference assistance is available in person, by phone, by email, and by chat service. Faculty members can arrange for a librarian to provide instruction on using library resources and students can make appointments with librarians to plan a research project.

## **Accreditation, Approval, Licensure or Certification**

The current program is not subject to accreditation or approval by any state agency other than CHE. Graduates are not directly subject to licensure or certification by outside agencies.

## **Articulation**

The graduate programs of the Department of Exercise Science accept students from a variety of undergraduate degrees and the specific pre-requisite expectations are dependent on the program of interest to the prospective student. In all cases, a strong scientific background is necessary, with an emphasis on university-level Biology, Chemistry, and Anatomy/Physiology. Graduate students within the department come from universities across the country and from abroad.

## **Total New Costs Associated with the Proposed Modification**

This program has been in existence for 20 years and consequently, no essentially new costs in implementing the proposed CIP code modification are required. As part of the department's mission to expand and disseminate new knowledge, the Exercise Science Department is in the process of developing a series of upper-division courses that delve with greater depth and detail into the biological mechanics of specific topics and include metabolism, muscle physiology, genetics, immunology, and research design. The department already employs faculty who are well-qualified to teach these courses; in fact, these new courses reflect research areas in which the faculty are currently working. Consequently, the only foreseeable future costs would be relatively minor, aimed primarily at gathering and developing instructional materials.