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**M.S. in Clinical Exercise Physiology**  
***Program Policy Statement***

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## **Part I. Program History**

### ***A. Purpose***

According to the Center for Disease Control and Prevention, approximately half of US adults have a least one chronic health condition such as cardiovascular disease, chronic pulmonary disease, arthritis, cancer, or obesity. Additionally, 1 in 5 Americans have more than two of these illnesses, resulting in a condition labeled as Multiple Chronic Conditions (MCC). These chronic diseases make up seven out of the top 10 causes of death among US adults, as well as the number one cause of disability. Furthermore, it is estimated that medical care costs for individuals with at least one chronic illness contributes to 78% of the overall \$1.7 trillion dollars of health care expenditures in the US, while care for individuals with more than one chronic condition makes up 95% of these costs. Sadly, two thirds of the health care expenditure costs are made up by individuals who present with five or more chronic illnesses. In particular, the state of Delaware is challenged with high prevalence of such chronic illnesses, ranking 23<sup>rd</sup> in the nation for heart disease, 34<sup>th</sup> in the nation for chronic pulmonary disease, and 27<sup>th</sup> in the nation for kidney disease.

Recently, there have been great efforts to develop disease management programs in order to help ease the burden of current health care costs. Unfortunately, such efforts have been largely unsuccessful in reducing this burden or providing adequate care management for individuals. Additionally, research suggests that persons with MCC are more vulnerable to care programs of lower quality as coordination of care tends to be more difficult given the increased number of professionals and resources required to meet their medical needs. Thus, in order to enhance patient care, a more comprehensive approach to care coordination must be established, bringing the necessity of effective, multidisciplinary medical care teams to a critical point.

As part of such multidisciplinary teams, a Clinical Exercise Physiologist (CEP) works with patients and clients with chronic illnesses as well as with apparently healthy populations. CEPs are trained to apply efficacy-based exercise/physical activity programs and behavioral interventions to almost every chronic illness to help improve patient outcomes and quality of life. Regular participation in exercise and physical activity has been associated with health outcomes such as reductions in all-cause mortality and morbidity, cardiovascular disease, metabolic diseases (e.g. diabetes, obesity, hypertension) and even some cancers. As exercise specialists, CEPs prescribe the most appropriate dose, type, frequency and intensity of exercise and physical activity in order maximize such benefits while also reducing potential risks. More recently, the role of a CEP has expanded as growing evidence supports the need for professionals to focus on reducing negative psychological experiences during exercise in order to promote adherence to programs, a critical component to achieving the accumulative benefits of exercise. A CEP can work in preventative and rehabilitation settings as they uphold the highest professional guidelines and ethical standards in order to provide exceptional care to individuals and enhance communication between patients and their medical care coordination team.

Given that Clinical Exercise Physiology is a relatively new field (having only been around since the 1960s), there is a need for professional graduate programs that promote the published professional guidelines and ethical standards and prepare students to sit and pass the American College of Sport Medicine's certification examination in order to enter the workforce as the top qualified professionals. This is the impetus for the creation of the M.S. in Clinical Exercise Physiology program.

Currently, within the Kinesiology and Applied Physiology Department, the M.S. in Exercise Science program has a concentration in Clinical Exercise Physiology. The existing concentration is different from the other concentrations in the M.S. in Exercise Science program in that it is a non-thesis, professional graduate program and students must be full-time, moving through the program in cohorts. Making this a free-standing master's program will also provide greater visibility to the program for purposes of recruiting students. This change is also in line with the missions of the

College and University to provide outstanding, targeted professional education to our students so they will be prepared to serve our local Delaware community as well as global society by becoming health care advocates and part of interdisciplinary teams that enhance the health and wellbeing of our society.

This new program draws from the existing graduate courses in the current academic concentration and will provide a fundamental foundation for future accreditation and recruitment efforts which contribute to fulfilling the mission of the University of Delaware by supporting its path to prominence. The plan for administration of the program is further detailed in the Program Policy Statement.

### ***B. Current Status***

Clinical Exercise Physiology is currently a concentration under the M.S. in Exercise Science program. In June 2016, the concentration accepted eight students for its inaugural class and as of summer 2017, all eight graduated. Of the eight students, two went on to pursue their PhDs and another is pursuing a second Master's degree to aid in the development of his own fitness business. Several of our recent graduates are applying to Physical Therapy or Physician Assistant programs and are currently waiting on their acceptance status. Other graduates have accepted positions as a Clinical Exercise Physiology research assistant and assistant coach for premier Universities. In June 2017, seven more students were enrolled under the concentration and are currently active students who are anticipated to graduate in May 2018. Given the proposed changes, the M.S. in Clinical Exercise Physiology program would be eligible for permanent status in 2023.

### ***C. Degree Offered***

The degree awarded to those who complete this program will be a Master of Science in Clinical Exercise Physiology.

## **Part II. Admission**

### ***A. Admission Requirements***

Applicants must submit all materials directly to the University Office of Graduate and Professional Education using the online admission process before admission can be considered. Admission applications are available at: <https://grad-admissions.udel.edu/apply/>. A GPA of at least 2.75 is preferred. Applications are evaluated based on a combination of records of academic achievement, recommendations, and the applicant's statement of professional goals and values. The Program Committee will make admission decisions and assign accepted students to faculty advisors. Priority will be given to applicants who apply by the December 15<sup>th</sup> deadline each year, with a secondary, final application deadline of May 1<sup>st</sup>. The program admission process is completed as follows: Completed applications consisting of the following:

- Online application.
- GRE Test Scores.
- Undergraduate/graduate transcripts.
- Three letters of recommendation from individuals who have direct knowledge of the candidate's academic and/or professional capabilities.
- A written personal statement describing how their academic, professional, and personal background has prepared them to be successful in the degree program and explaining how completion of the program will contribute to their professional goals.
- International applicants must submit official proof of English proficiency such as TOEFL or IELTS scores. The recommended minimum TOEFL score is 100 and/or IELTS of 6.5.

### ***B. Prior Degree Requirements***

A baccalaureate degree in a health related field from an accredited college or university is required. Previous course work in Anatomy and Physiology and/or Exercise Physiology is preferred.

### ***C. Application Deadlines***

For priority consideration, students should apply for admission to the program for summer enrollment no later than December 15<sup>th</sup>. These students will be notified of their acceptance or denial into the program in January of each year. Following the December 15<sup>th</sup> deadline, applications will be assessed on a rolling admissions process. All applications must be submitted by May 1<sup>st</sup> of the year they wish to be enrolled in the program to be considered. All students begin the program in the summer I semester.

### ***D. Special Competencies Needed***

This is a professional master's degree and no special competencies are required.

### ***E. Admission Categories***

Students admitted into the Program may be admitted into one of two categories.

- 1) **Regular**: Regular status is offered to students who meet all of the established entrance requirements.
- 2) **Conditional Admission**: Successful applicants are typically admitted conditionally because stated information is self-reported and uploaded documents are unofficial. Fulfilling the conditions stated on an offer of conditional admission by the first date of graduate coursework is critical, so the instructions stated on the letter must be followed carefully. Failure to clear all stated conditions by the start of graduate coursework may result in revocation of admission to the graduate program.

### ***F. Other Documents Required***

No other additional documents are required for the application process. Interviews with faculty members are not required but are encouraged.

### ***G. University Statement***

Admission to the graduate program is competitive. Those who meet stated requirements are not guaranteed admission, nor are those who fail to meet all of those requirements necessarily precluded from admission if they offer other appropriate strengths.

## **Part III. Academic Degree: Master of Science (MS)**

### ***A. Degree Requirements for the Master of Science (MS)***

- 1) **Required Courses and Program of Study** (all courses are already approved courses)
  - KAAP 665: 12 Lead ECG Interpretation (Fall) 3 Credits
  - KAAP 675: Clinical Exercise Physiology I (Summer I) 4 Credits
  - KAAP 676: Clinical Exercise Physiology II (Summer II) 4 Credits
  - KAAP 677: Administration and Organization of Cardiopulmonary and Wellness Programs (Fall) 3 Credits
  - KAAP 678: Cardiopulmonary Pathophysiology And Pharmacology (Spring) 3 Credits

KAAP 679: Primary Preventive Medicine Strategies (Winter) 3 Credits  
KAAP 680: Clinical Exercise Physiology Comprehensives (Spring) 3 Credits  
KAAP 681: Clinical Exercise Physiology Competencies Portfolio (Spring) 1 Credit  
KAAP 671: Clinical Exercise Physiology Internship (Summer II, Fall, Winter, Spring)  
12 Credits

## **2) Internships**

Students will complete 12-credits worth of designated clinical internship experiences as part of the requirements for the degree. The faculty advisors will assign students to these clinical internship assignments throughout their involvement in the program. Internship rotations are scheduled around classes and all internship schedules are provided to students during the first week of the program. Students are volunteers at these internships site and are not monetarily compensated for their time. These internship opportunities provide students with essential hands on opportunities that prepare them for future professions as well as qualify them for the American College of Sports Medicine certification exam. Additionally, students will document and report all efforts within these internships into a professional portfolio which summarizes the student's clinical experiences and contributes to part of their final grade in KAAP 681: Clinical Exercise Physiology Competencies Portfolio. Furthermore, many of these internships support current research and clinical efforts within the College of Health Sciences including Nurse Managed Primary Care Center's Exercise Counseling Services, Dr. David Edward's Renal Rehabilitation program as well as Dr. Chris Knight's SpeedGeezers Parkinson's Disease Research program. Students are evaluated by designated site supervisors at two points during their clinical rotation, halfway through and upon completion of their rotation. Clinical internship supervisors provide these two evaluations (standardized rubrics) to the student's faculty advisor(s). These evaluations are averaged into the student's grade for KAAP 671.

## **3) Changes to the Program of Study**

Internship assignments are scheduled in order to not interfere with student's required courses. Students will follow the program of study as a cohort and courses will be taken in the designated semesters listed above. Students who wish to make minor changes to their program of study must obtain permission from their faculty advisor. Major changes to the program of study, such as the substitution of one or more core courses, must be approved by the Program Committee. All changes in a previously approved program of study must be approved by the Program Director.

## **4) GPA Requirements**

A grade below a B- will not be counted toward the course requirements for a degree but is calculated in the student's cumulative grade point average. To be considered in good academic standing, a student must maintain a minimum cumulative graduate grade point average (GPA) of 3.00 on a 4.00 scale each semester. To be eligible for an advanced degree, a student's cumulative grade point average shall be at least a 3.00 and the student's grades in courses counted toward the degree requirements of the program shall equal at least a 3.00. Should a student receive below at B- in a single course, the student will be required to either repeat the course or take an independent study with their

faculty advisor within one academic semester. If an independent study is recommended for the student, the scope of the independent study will be selected by their faculty advisor to best demonstrate the student's competencies in course related materials as well as course objectives.

### **5) Independent Study and Transfer Credits**

Independent study credits will be allowed only under special circumstances and require the approval of the Program Committee. With the approval of the Program Committee, a maximum of 9 graduate credits may be transferred from another institution to the degree as electives. Course substitution must be approved by the Program Committee and Program Director.

### **6) Expectations of Facility of Expression in English**

Due to the high degree of clinical patient contact hours, all students enrolled in the M.S. in Clinical Exercise Physiology program must demonstrate advanced/fluent levels of proficiency in the English language.

Advanced/fluent proficiencies include but are not limited to students being able to communicate and write with native-like proficiency, read/listen and comprehend at a level that approximates native English-speaking graduate students who are meeting required standards. Minimum standard scores for TOEFL and/or IELTS scores are 100 and/or 6.5. To ensure the highest levels of safety for our students and patients, as well as emergency situation preparedness, the program committee will have the final say in whether a student's English language proficiency is adequate enough for enrollment into the program.

## ***B. Degree and Advisement***

Students accepted into the program will be assigned to a faculty advisor(s) by the Program Committee. Faculty advisors will help oversee students during their enrollment in the program, in particular during the 12 credits worth of clinical internship experiences (KAAP671 Clinical Exercise Physiology Internship). Daily involvement at these clinical sites are under the supervision of a designated site supervisor as well as faculty sponsors, who may or may not be the student's faculty advisor. Site supervisors and faculty sponsors provide critical feedback on the student's progress at each site half way through each rotation as well as a final assessment at the completion of the rotation. A standardized rubric is utilized by all sites to assess the student's performance. Students are provided a copy of this rubric during the first week of the program to ensure they are well informed about their expectations at each clinical site. Both midpoint and final assessments contribute to the students' overall grade in KAAP671: Clinical Exercise Physiology Internship. Clinical rotations are organized by the faculty members in the Clinical Exercise Physiology program. The schedule for each clinical rotation is strategically planned as to not interfere with program courses. Students are notified of their clinical rotation schedule for the entire year during their first week of the program. Students do not receive monetary compensation for their involvements at these clinical internship sites. The efforts of these internships culminates in experiences that prepare students to enter a variety of work environments, the American College of Sports Medicine's Certification exam, as well as a professional portfolio which summarizes the student's clinical experiences and contributes to part of their final grade in KAAP 681: Clinical Exercise Physiology Competencies Portfolio.

### ***C. Timetable and Satisfactory Progress towards Degree***

#### **1) Academic Load and Satisfactory Progress**

The program will follow the University of Delaware, Office of Graduate and Professional Education recommended policy for determining students' failure to make Satisfactory Progress towards degree requirements and time limits for completion. Students must be enrolled on a full-time (9 credits per Fall and Spring terms, 3 credits in Winter/Summer) basis in order to complete the professional program in 1 year.

#### **2) Grade Requirements**

Students must have a minimum overall cumulative grade point average of 3.0 to be eligible for the degree and the grades in all courses applied toward the degree program must be at least 3.0. All graduate-numbered courses taken with graduate student classification at the University of Delaware are applied to the cumulative index. Credit hours and courses for which the grade is below "B-" do not count toward the degree even though the grade is applied to the overall index.

#### **3) Grievance Procedures**

Students concerned that they have received an unfair evaluation or have been graded inappropriately may file grievances in accordance with student guide to University of Delaware policies. Students are encouraged to contact the Program Director prior to filing a formal grievance in an effort to resolve the situation informally.

### **Part IV. Assessment Plan**

The program will follow the Academic Program Review (APR) schedule, policies and procedures, established by the Provosts office and faculty senate. Data will be provided by the Office of Institutional Research and Effectiveness, in conjunction with faculty/student interviews, measures of scholarly productivity, and alumni. Annual meetings will be held to discuss curricular changes, review analyzed data, identify action items, and establish timelines and assignments for responsibilities. The program will continue consultation with the Center for Teaching and Assessment of Learning to periodically reexamine appropriate learning outcomes, assessment criteria, and benchmarks for success.

### **Part V. Financial Aid**

This is a 12-month professional master's program and students are expected to pay graduate tuition.

### **Part VI. Program Organization and Administration**

#### ***A. Affiliated Program Faculty***

The inaugural group of affiliated program faculty who have been involved in program planning and development include:

Brittany Overstreet  
Guy Scotolati  
Michelle Provost-Craig  
Nancy Getchell  
Dave Edwards  
Chris Knight

Megan Wenner  
William Farquhar  
John Jeka

Administrators also involved or consulted include:

Shelley Rust  
Megan Murphy

Additional faculty with interest in the program may become affiliated by submitting a CV to the Program Director and receiving the positive majority vote of program faculty.

The affiliated program faculty agree to fulfill the following responsibilities:

- 1) Accepting a reasonable number of student advisees.
- 2) Participating in program faculty meetings.
- 3) Provide supervision of a reasonable number of clinical rotations.

#### ***B. Program Director***

The Program Director shall be a faculty member affiliated with the program who is appointed by mutual agreement of the Deans of the Colleges overseeing the program (currently the Colleges of Health Sciences) for a term of two years. The Program Director serves at the pleasure of the overseeing deans.

The responsibilities of the Program Director include:

- 1) Providing leadership and oversight for the program.
- 2) Organizing and leading meetings of affiliated faculty and the Program Committee.
- 3) Communicating as necessary with the University Graduate Office.
- 4) Serving as the first point of contact for issues arising with program students and faculty.
- 5) Approving all changes to programs of study.
- 6) Approving all changes in faculty advisors.

#### ***C. Program Committee***

The Program Committee shall consist of two members of the affiliated faculty elected by the faculty from each unit not represented by the Program Director, one faculty member or professional from the Clinical Exercise Physiology program, and the Program Director. The two-year terms of these Program Committee members shall be staggered, such that each year at least one member is replaced. A Program Committee member may serve two consecutive terms with an affirmative vote of the affiliated faculty.

The responsibilities of the Program Committee include:

- 1) Making annual admission decisions on student applicants.
- 2) Matching students to faculty advisors.
- 3) Approving all new programs of study and major changes to existing programs of study, including any transfer credits or independent study credits.

#### ***D. Program Resources***

The following terms are agreed upon for managing resources related to this interdisciplinary professional master's program:

- 1) Tuition income for students in this program will flow to the college of the instructor of record for each course.
- 2) Since this is a professional master's program, the participating units are not expected to provide graduate assistantships for the enrolled students.



- 3) With the approval of the Program Committee, the administrator overseeing the department/school home of the Program Director will determine the appropriate workload allocated to the responsibilities of the program, with the general expectation that this will be .25FTE of the Program Director's workload.
- 4) The home department/school/college of the Program Director is expected to make appropriate secretarial or other staff assistance available to the Program Director for conducting necessary program business.