Graduate Program Policy Statement for the Master of Science in Exercise Science

Proposed Revision 11.11.2020

Part I. Program History

A. Purpose

The Master of Science (MS) in Exercise Science was created to provide a concentrated program of academic study for students interested in developing a deeper understanding of theory and applications related to the functioning of the human body during physical activity.

The MS program in Exercise Science is supported with well-equipped research facilities, including three-dimensional video capabilities, electromyography, and force platforms, as well as equipment for measurement of cardiovascular and cardiopulmonary function, bone mineral density, body composition, functional muscular capacity, blood lactate, and motor unit discharge. Graduate students in this program are expected to participate in ongoing faculty-directed research programs.

B. Evolution of the Program

The Master of Science in Exercise Science degree program was initiated as a Master of Science Degree in Physical Education in March 1972 on an experimental basis, with the mission of providing concentrated academic opportunities for those students interested in developing a deeper understanding of theory and applications related to the functioning of the human body during physical activity. The University Graduate Committee approved the experimental program for a period of three years, and the program received permanent status in November 1975.

In May 1988, the graduate program was evaluated by a panel of educators from other universities with established and reputable programs of graduate study in physical education. The evaluating team made a number of recommendations regarding course offerings, faculty assignments, admission practices, research and facilities[1]. All of the recommendations have been addressed.

In 1998, a University-wide reorganization of academic units resulted in the merging of the College of Physical Education, Athletics, and Recreation with the College of Nursing and the Department of Nutrition. The new college was named the College of Health and Nursing Sciences, and the Department of Physical Education was renamed the Department of Health and Exercise Sciences. The Master's degree program offered through the Department of Health and Exercise Sciences and formerly known as the Master's in Physical Education degree program, was changed to the M.S. with a major in Exercise Science in 1999. In 2003 the departments of Health and Exercise Science and Nutrition and Dietetics merged to form the Department of Health, Nutrition, and Exercise Sciences and

[1] Graduate Program Review of the College of Physical Education, Athletics and Recreation at the University of Delaware, John Billing, University of North Carolina, Richard Nelson, Pennsylvania State University, Robert Singer, University of Florida, May, 1988.

in 2005 the College was renamed the College of Health Sciences.

In 2010, the Department of Health, Nutrition and Exercise Sciences was divided into the Department of Behavioral Health and Nutrition (BHAN) and the Department of Kinesiology and Applied Physiology (KAAP). Undergraduate and graduate degree programs in Exercise Science and the doctoral program in Applied Physiology are housed within KAAP.

In 2017, the Clinical Exercise Physiology concentration in the MS in Exercise Science program was converted to an independent MS program.

In 2018, a non-thesis option was added to the MS in Exercise Science program.

C. Degree Offered

The graduate program in Exercise Science offers a Master of Science degree in Exercise Science.

D. Commitment to Diversity, Equity and Inclusion

The College of Health Sciences (CHS) and the Exercise Science MS Program embraces diversity, inclusion, connectedness, and professionalism as core institutional values. We believe that a diverse student, faculty, and staff body are critical to our teaching and scholarship and are a much needed reflection of the diverse patients and caregivers for whom we provide care. Beyond the University's code of conduct for students and employees, which we fully support, we have additional standards and expectations for members of CHS and the Exercise Science MS Program due to our important roles and influence in health and healthcare.

Part II. Admission

A. 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.

B. Admission Requirements

The Exercise Science Graduate Program Committee makes admission decisions. Students will be admitted to the program based upon enrollment availability and their ability to meet the recommended entrance requirements below.

To be admitted, a student must have identified a faculty mentor and obtained their commitment for advisement. Prior to submitting an application, visit the faculty webpages of potential advisors or communicate with them directly to determine whether they are

recruiting students (see https://sites.udel.edu/kaap/our-research/). Faculty members tend to advise students whose background, goals, and objectives are compatible with their own areas of research and funding.

1. Applicants must complete the University of Delaware Graduate College application in order to be considered. See the Graduate College Application website for a checklist of application requirements and guidance for domestic and international applicants. https://grad.udel.edu/apply/
2. Applicants must gain the support of a primary advisor.
3. A Baccalaureate degree from an accredited college or university. A minimum undergraduate GPA of 3.0 on a 4.0 system is required.
4. All foreign national applicants for graduate study at the University of Delaware are expected to meet UD requirements for foreign students. These include English proficiency official TOEFL scores, etc. (see https://grad.udel.edu/apply/toefl-ielts/).
5. The equivalent of an undergraduate major in kinesiology, exercise science or related discipline
6. On the 130-170 scale, GRE scores are generally above 151 for Quantitative Reasoning and above 150 for Verbal Reasoning.
7. Applicants must submit at least three letters of recommendation. All letters of recommendation should be managed electronically through the Graduate College.
8. Applicants must submit an essay response to specific questions asked on the application; a resume; and a statement of professional goals and objectives. (see https://grad.udel.edu/apply/application-essay/).
9. One official transcript of all US colleges and universities attended must be sent directly from the institution to the Graduate College or be provided in a sealed envelope with the application packet. Students who have attended the University of Delaware need not supply a transcript from Delaware.
10. One official transcript of all non-US based college and university records is required. The transcript must list all classes taken and grades earned. If the transcript does not state that the degree has been awarded, send a degree certificate that states that the degree has been awarded. If the degree has not been awarded or the degree certificate has not been issued, evidence of the awarded degree must be provided prior to the first day of classes in the term of admission. For institutions that issue documents only in English, send the English original. For institutions that issue documents both in English and a foreign language, send both the English language original and the foreign language original. For institutions that issue documents only in a foreign language, send the foreign language original and a certified translation in English. The translation must be certified by an official of the issuing institution, a state- or court-appointed translator, or the Embassy of the issuing country in the United States. If it is necessary to send non-original documents:
    a. The documents must be original “attested copies”, officially attested to by the issuing institution or the Embassy of the issuing country in the United States, and
    b. Certified translations must be originals. No copies will be accepted.

Recommended Prerequisites*

- One year of Biology
- One year of Chemistry
- One year of Physics
- Math through Calculus
- One year of Anatomy and Physiology

* While the recommended prerequisites named above are mostly considered essential for your success in the MS in Exercise Science program, your identified faculty mentor may allow flexibility considering your career goals and their research focus. Your application profile may be enhanced by knowledge or abilities that are complementary to the faculty mentor's area of scholarship.

C. Prior degree requirements

A Bachelor of Science (BS) from an accredited college or university. A minimum undergraduate GPA of 3.0 on a 4.0 system is required.

D. University Admission Procedures

Applicants must submit all materials directly to the University of Delaware Graduate College using the online admission process before admission can be considered. Admission applications are available at: https://grad-admissions.udel.edu/apply/

E. Application Deadlines

Applications are processed as they are submitted. However, students wishing to be considered for graduate funding must complete the application process no later than January 15 of the preceding year. The Graduate Program Committee typically requires a period of one month to process completed applications.

F. Admission Application Processing

The Graduate Program Committee makes acceptance decisions based on a variety of factors including, but not limited to, the strength of the applicant, the availability of an advisor and the availability of funding to support the applicant.

After the applicant has secured the support of a potential advisor and has submitted a complete application, the application materials will be reviewed by the Graduate Program Committee. If the applicant is admissible applicants are then formally admitted into the program once a faculty member has secured financial support for the student through grant funding, departmental assistantships or other sources.

G. Admission Status

Students admitted into the Exercise Science graduate program may be admitted into one of three categories.

a) **Regular.** Regular status is offered to applicants who meet all of the established entrance requirements, who have a record of high scholarship in their fields of specialization, and who have the ability, interest, and maturity necessary for successful study at the graduate level in a degree program.

   Applicants who file an application during the final year of undergraduate or current graduate work and are unable to submit complete official transcripts showing the conferral of the degree will be admitted pending conferral of the degree if records are otherwise satisfactory and complete. Failure to provide official test scores and documents showing degree conferral by the first day of classes may result in revocation of admission to the graduate program.

b) **Conditional.** Conditional status is offered to applicants who are seeking admission to a degree program but lack specific prerequisites needed in the University of Delaware degree requirements. All conditional requirements must be met within the deadline given before regular status can be granted. Failure to meet the conditions by this deadline is grounds for dismissal from the program. Students admitted with conditional status to a degree program are generally not eligible for assistantships nor fellowships.

c) **Non-Degree Status.** Applicants who wish to earn graduate credit but do not intend to earn a graduate degree at the University of Delaware may be admitted with non-degree graduate status. Admission with non-degree status implies no commitment by the University or the graduate program about later admission as a regular student. Such applicants must submit official college transcripts. International applicants must submit official proof of English proficiency such as TOEFL or IELTS scores.

   Non-degree students are not required to follow course sequences, but they are held to the same academic standards as are other graduate students. This status is valid for a stated limited time. The student must complete an admission application to be considered for changing to regular status. Earned graduate credit may or may not be accepted if the student's classification is changed to regular status. In general, graduate credit must fit into an approved program of study and all credits must have been completed within the appropriate time limit.

   Non-degree students taking classes under cooperative agreements must submit a letter from their home institution, typically from their graduate dean or registrar, certifying that they are graduate students in good standing at another institution. Such letters will be accepted in lieu of the transcripts that are required of other non-degree applicants.

Part III. Degree Requirements

A. Requirements for the Degree

The Master of Science in Exercise Science requires 24 credits of coursework at the 600 or 800 level, and 6 credits of thesis. In special situations, a non-thesis option is available, in which case the student will replace the 6 credits of thesis with an approved Research Project and a combination research credits and coursework as described in section III.D. The 24 credits of coursework are specified in the individual planned programs of study, and must include 15 credits of courses within Exercise Science (KAAP prefix). A total of 30 credits is required to complete the degree for the thesis and non-thesis options.

Core Requirements (6 credits)

Six credits of coursework in the individual planned program of study with advisor's approval. One course in research methods and one statistics course are required.

KAAP601 Research Methods
KAAP602 Data Analysis and Interpretation in Health Sciences

Exercise Science Requirements (18 credits)

Eighteen credits including a minimum of 15 credits KAAP-prefixed coursework for the individual's planned program of study.

Thesis (6 credits)

Thesis Credits (KAAP869) (6 credits)

Non Thesis (6 credits)

Research Credits (KAAP868) (6 credits) or
Research Credits (KAAP868) (3 credits) and 3-credits of additional coursework at the 600-level or above

Individual programs of study are developed in consultation with the student's advisor. Programs of study will vary based on student goals and faculty-specific interests in student training. Students will initiate the program by working with their faculty advisor to outline an intended program of study that balances the student's mastery of the scientific method with Exercise Science content. At entry into the program, the advisor will provide the student with a sample program of study to use as an initial template and assist them with the selection of their first-semester courses. For each subsequent semester, the student will submit a list of proposed courses to their faculty advisor at least one week prior to the registration period. After the approval of the faculty advisor, the updated program of study will be submitted to the Graduate Program Committee for review and approval. With approval of the faculty mentor and Graduate Program Committee, courses from outside of KAAP can be used to fulfil program requirements.

Maximum independent study credits: Students in the Master's degree program are allowed to take a maximum of six credits of independent study. Additional independent study credits will not count towards graduation.

Maximum Research credits: Students in the Master's degree program are allowed to take a maximum of six research credits (KAAP868). Additional research credits will not count towards graduation.

Maximum transfer credits: A maximum of 9 graduate credit hours may be transferred from another institution to the degree.

Candidates for the degree must have regular status.

B. Revisions to Planned Program of Study

Students who wish to make changes to their program of study must first obtain permission from their advisor. The advisor must then make a written request to the Graduate Program Committee to revise the program of study.

C. Regulations Governing Theses

Students are responsible for adhering to all university policies and deadlines related to submission of forms and final thesis documents. Deadlines and policies can be found at the website for the Graduate College. Follow the GRADUATION: Step-by-Step guide to adhere to the University policies for graduation.

The following policies are specific to the Department of Kinesiology and Applied Physiology

1) *Establishment of Thesis Committee*: The student and his/her advisor will create a thesis committee at the time the student begins to develop the thesis proposal. The thesis committee shall consist of at least two University faculty from within the Department of Kinesiology and Applied Physiology, and at least one additional faculty member from inside or outside of the department. The definition of University faculty shall include professional staff members who hold secondary faculty appointments within the department. Faculty who have retired or resigned from the University may continue to chair committees of students whose work began under their direction prior to their retirement or departure from the University. Individuals who do not meet the above stated definition given for faculty status may co-chair the thesis committee provided that the other co-chair meets the definition for faculty status. Outside faculty shall include individuals not affiliated with the M.S. in Exercise Science program. These may be individuals from outside of the University who are nationally recognized for their

expertise in the area of study specified by the thesis. The Graduate Program Committee must approve committee members from outside of the University. It is the responsibility of the thesis advisor to replace members who withdraw from the committee during the thesis process.

2) *Defense of the Thesis Proposal*: The format of the written thesis must adhere to the University's Thesis and Dissertation Manual and style guidelines. These resources available electronically on the Graduate College's website (see the Step-By-Step Guide for Graduation: https://grad.udel.edu/policies/step-by-step-guide-to-graduation/).

   A copy of the thesis proposal must be delivered to the members of the thesis committee at least two weeks in advance of the proposal defense. A copy of the thesis proposal must be made available to Department faculty and students at least one week prior to the defense by submitting an electronic copy to the Graduate program director for redistribution. Proposals that involve the use of human subjects must receive approval from the University Institutional Review Board (IRB). Details for creating consent forms and submitting studies for review by the IRB can be obtained from the UD Research Office.

   All Department faculty and students will be invited to the thesis proposal defense. The candidate will present a summary of the proposed research, and will then address questions from the committee, attending faculty, and invited guests. After all questions have been addressed, the thesis committee will meet privately to decide whether the proposal is accepted, rejected, or accepted with stipulations. Details of the meeting will then be presented to the student. A majority of committee votes will decide the outcome. In the event of a split vote, the decision to accept or reject the thesis proposal will rest with the thesis advisor.

   Thesis committee members should sign the final copy of the approved proposal. A signed copy of the approved thesis proposal should be forwarded to the Exercise Science Graduate Coordinator. Students who fail the thesis proposal defense will receive one additional opportunity to repeat the process and defend a new or modified thesis proposal.

3) *Defense of the Thesis*: The format of the written thesis must adhere to the University's Thesis and Dissertation Manual and style guidelines. These resources available electronically on the Graduate College's website (see the Step-By-Step Guide for Graduation: https://grad.udel.edu/policies/step-by-step-guide-to-graduation/).

   A final copy of the written thesis must be delivered to the members of the thesis committee at least two weeks in advance of the defense. A copy of the thesis must be made available to Department faculty and students at least one week prior to the defense by submitting an electronic copy to the Graduate program director for redistribution. Thesis content and organization should be appropriate for the journal(s) in which the thesis is targeted for publication with additional literature review materials contained in an appendix.

All Department faculty and graduate students will be invited to the thesis defense. The candidate will present a summary of the completed research, and will then address questions from the committee, attending faculty, and invited guests. After all questions have been addressed, the thesis committee will meet privately to decide whether the thesis is accepted, rejected, or accepted pending revisions. Details of the meeting will then be presented to the student. A majority of committee votes will decide the outcome. In the event of a split vote, the decision to accept or reject the thesis will rest with the thesis advisor. Students must pass the thesis defense in no more than two attempts in order to complete the requirements for the Master of Science degree with a major in Exercise Science.

D. Non-Thesis Requirements

Students electing the non-thesis option will complete the degree requirements through an approved Research Project and the following course combinations.

a) 6 credits of KAAP868: Research OR
b) 3 credits of KAAP868: Research AND 3 credits of approved coursework.

1) *Establishment of Research Project Committee:* The student's advisor and two faculty approved by the Graduate Program Committee will serve as the Research Project Committee.

2) *Research Project:* The student will work individually with their faculty advisor to design and complete a supervised Research Project. The Research Project gives the candidate the opportunity to synthesize and apply the skills developed in the MS program, and to demonstrate mastery and knowledge and skills expected of a graduate of the MS in Exercise Science program.

The culminating 6 credit Research Project will examine a current topic in Exercise Science, which may apply accumulated didactic knowledge for the experience. The written document will take the form appropriate for the type of project format the candidate is to undertake. For example, for an academic position paper, the degree candidate will survey the literature, write a report demonstrating proficiency and assimilation enabling formulation of a position statement or other type of integrative analysis. The candidate will make a public presentation to the department, represented by the student's Research Project Committee.

The format of the project may be one of the following:

- Analytical Research/Process Focus (Ex: Academic Position Paper)
- Teaching Faculty Focus (Ex: Teaching Portfolio and Presentations)
- Research Technician Focus (Ex: Lab Manual)
- Other – must have approval from the student's advisor & Graduate Program Committee prior to beginning project.

This degree will culminate in a Research Project document with the approximate organization:

1) Abstract or executive summary
2) Research question(s) or purpose statement
3) Review of the literature (academic and/or professional)
4) Analysis (quantitative and/or qualitative)
5) Findings
6) Recommendation
7) Oral presentation of the project

3. *Presentation of the Research Project:* The Research Project presentation will be open to the public, and invitations will be sent to all program faculty and students at least one week prior to the defense. The candidate will present a summary of the completed project, and will then field questions from the committee, attending faculty, and invited guests. After all questions have been fielded, the Research Project committee will meet privately to decide whether the project is accepted, rejected, or accepted pending revisions. Results of the meeting will then be presented to the student. The student cannot receive more than one dissenting vote from members of the committee to receive a passing grade. Students who fail the Research Project will receive one additional opportunity to repeat the process and defend a new or modified project at a time agreed upon by committee members, but within 6 months.

University Policy: Once a master's student pursuing a non-thesis option has registered for all required course credits needed for the degree, but has not completed other non-thesis degree option requirements such as a portfolio, research option paper, comprehensive examination, art show or exhibit, or incomplete grades, the student is required to maintain his/her eligibility for the degree program during the fall and spring semesters by registering for Master's Sustaining: Non-thesis (UNIV 895). All students, including sustaining students, must be registered in the semester in which the degree is officially awarded. Sustaining registration is required for summer and winter session only if the degree is awarded at the conclusion of the summer or winter session. Students in sustaining status are considered full-time.

Part IV. Assessment Plan

The objective of the Master of Science in Exercise Science Program is to prepare students for research-based or other careers related to exercise science. This requires:

- Demonstrated mastery of the scientific method
- A strong foundation in Exercise Science knowledge
- Effective oral and written communication skills
- Critical thinking skills
- Organizational skills

These learning objectives are critical for success of the student. They are measured directly

by performance in courses related to the student's research area as well as by performance on the written and oral presentation of the Thesis Proposal and Defense or the deliverable of the Research Project in the case of a non-thesis graduate.

Part V. Financial Aid

A. University Guidelines for Graduate Students on Fellowship or Assistantship Contracts

Students who are awarded a fellowship or an assistantship for the fall and/or spring semester assume a contract with the University and are expected to give their full-time attention to graduate study in those semesters. Students are classified as "on contract" if paid at least 50% of the U.D. minimum stipend in the fall and/or spring semester and are matriculated as a full-time student. Students who receive no stipend but receive a departmental tuition scholarship of at least 50% in the fall and/or spring semester and are matriculated as full-time students are also classified as "on contract." Students who are classified as research assistants and are paid at least 100% of the minimum stipend in the months of June and July and/or August are classified as "on contract" in the summer months. See the Guidelines for Graduate Students on Fellowship or Assistantship Contracts for additional policy details.

B. Graduate Assistantships in Department of Kinesiology and Applied Physiology

In the MS in Exercise Science program, two types of funded positions for graduate students are offered when funds are available: Teaching Assistants and Research Assistants. Teaching Assistant positions are generally for two years or 4 semesters in total. Research Assistantships are generally provided by the student's advisor when research funding is available. Eligibility for initial employment as a Graduate Assistant in the Department of Kinesiology and Applied Physiology requires the following:

a) Regular admission into the Master of Science program in Exercise Science, and
b) Ability to teach or otherwise provide assistance in an area of program need.

The Graduate Program Committee shall make recommendations to the Department Chair, who shall make the final determination of employment.

The term of employment shall normally be two years. However, continuing employment during that two year period shall be contingent upon the following:

Satisfactory teaching performance, as determined by the Department Chair following consultation with the supervising faculty.

a) Maintenance of at least a 3.0 GPA over all courses taken, and
b) Satisfactory progress toward the master's degree in Exercise Science.

C. Workload Assignment

The Department Chair shall make assignment of Teaching Assistant (TA) duties on a semester-by-semester basis. Duties assigned shall represent a time-wise commitment by the TA of no more than 20 hours per week. Responsibilities may include teaching lecture classes and/or teaching laboratory classes in undergraduate programs within the Department of Kinesiology and Applied Physiology. Other ongoing and incidental duties may also be assigned.

TAs are often assigned multiple lab sections. When TAs are assigned multiple sections within the same course, the preparation time is expected to support all the sections they teach. When TAs are assigned multiple sections in different courses, the time required for unique preparation will be taken into consideration in the total workload assigned.

Possible responsibilities for lecture, and laboratory classes are listed below.

For Lecture Classes

- Read and know background content materials
- Adapt or formulate lesson plans
- Deliver lecture to class
- Facilitate class discussion and problem solving
- Organize and supervise student activities
- Answer student questions
- Anticipate and address student learning needs
- Grading: quizzes, exams and assignments

For Laboratory Classes

- Read and know background content materials
- Meet with faculty instructor to review previous week's lab session and discuss plans for the current week's laboratory experiences
- Plan organizational format for laboratory session
- Set up needed equipment and properly store equipment at end of class
- Return graded lab reports or quizzes
- Deliver introductory lecture to class
- Organize and supervise student activities
- Answer student questions and troubleshoot
- Provide a wrap-up session at the end
- Grading: lab reports and quizzes

Students may be expected to attend the lecture portion of a class if they have not taken or taught the material before.

D. Other Responsibilities

Graduate Assistants shall also be expected to perform other duties at the request of the Department Chair, which may include, but are not limited to the following:

1. Cover classes for absent instructors,
2. Assist with special events in which the program is participating, and
3. Assist the supervising faculty for a laboratory class or with other activities as needed.
4. Assist KAAP faculty with exam proctoring
5. Work under the supervision of a faculty member in a department research laboratory by mutual agreement of the Department Chair and the supervising faculty member.

VI. Departmental Operations

A. Administration and Faculty

The Exercise Science Graduate Program Committee administers the graduate program in Exercise Science. The Committee is composed of Exercise Science faculty members from the Department of Kinesiology and Applied Physiology. The Department Curriculum Committee provides oversight of all programs and curricula in the department.

Faculty members who teach graduate courses and advise graduate students in Exercise Science must have a doctorate or equivalent. In some instances, faculty members with a master's degree and special expertise in an area of Exercise Science as a result of concentrated study, employment experience, or service may be recommended for graduate teaching. In such cases, the faculty member must have a record of successful teaching in a specialized area of Exercise Science, proven scholarly ability, and the endorsement of the Chair of the Department of Kinesiology and Applied Physiology.