REQUIREMENTS FOR THE Ph.D. DEGREE

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University of Massachusetts
Amherst

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REQUIREMENTS FOR THE PH.D. IN KINESIOLOGY

I. Admission

Faculty in the Department of Kinesiology have varied research interests. A prospective student MUST secure permission to work with a specific advisor PRIOR to acceptance into the program. Graduate advisors are listed in 3 general areas, although many professors work in more than one area:

<table>
<thead>
<tr>
<th>Physiology</th>
<th>Physical Activity</th>
<th>Motor Systems</th>
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<tbody>
<tr>
<td>Muscle, Molecular &amp;</td>
<td>Fitness, Wellness,</td>
<td>Biomechanics, Motor</td>
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<td>Cardiovascular Physiology,</td>
<td>Health, Physical Activity</td>
<td>Control, Neuroscience</td>
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<td>Energy Metabolism</td>
<td>Measurement, Interventions</td>
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Sponsorship / Funding

“Sponsorship” indicates a commitment on the part of a faculty member to serve as academic advisor, and to provide research training and financial support to a student. Department policy is to accept only those students who can be supported through assistantships for teaching (TA) and/or research (RA). Graduate Assistantships (TA or RA) include a stipend during each semester, health insurance and a tuition waiver. Although some funding is available for the summer term, graduate assistantships are not guaranteed for the summer term. Prior to admission, a prospective student should correspond (phone or e-mail) with a potential faculty advisor concerning possible sponsorship for the Ph.D. It is to the applicant’s advantage to contact potential faculty sponsors early in the application process. If prospective students inquire before they submit their application to the Graduate School, they should include a resume, a summary of previous relevant course work, research experience (i.e. Master’s Thesis summary or equivalent), transcripts (if available), and GRE scores. A face-to-face meeting with a prospective faculty advisor (on campus and/or meeting at a conference or other off campus site) is greatly encouraged.

I. Requirements for the Ph. D.

A. Academic Deficiencies

Depending on the student’s previous academic coursework and training, selected courses may be required to strengthen the student’s background academic preparation. If not present in their training prior to admission, the student is required to address the following Academic Deficiencies. Note that there are several UMass Kinesiology classes that can fulfill each of these deficiencies; the student and their advisor will decide which class is appropriate. When the deficiency is addressed with a 500 or 600 level class, the student can use these credits towards their Ph.D. degree provided they attain a grade of B or better.
Acceptable UMass courses (Pick one in each deficient area)

1. Human Anatomy & Physiology
   KIN 270, 272 [class(es) most appropriate for student’s area]

2. Exercise Physiology
   KIN 470, 570, 585, 670

3. Biomechanics
   KIN 430, 530, 535, 597J

4. Motor Control
   KIN 460, 560, 565

In some cases, academic deficiencies can be fulfilled through an independent study with a faculty member who teaches in that area. If there is doubt concerning a class taken at another school, a faculty member who teaches in the area will review the course syllabus to decide whether the class content meets our requirements for competency.

For individual students, other academic deficiencies may also need to be addressed. For example, organic chemistry may be required for a student in the Physiology or Physical Activity areas, while a Motor Systems student may be required to take selected engineering courses. The student’s faculty advisor will decide specific undergraduate course deficiencies.

Competency in computer literacy (knowledge and practice in the use of spreadsheets, word processing, graphics, internet usage) is expected of all Kinesiology graduate students.

B. Qualifying Exam

The Qualifying Exam (QE) is designed to test each doctoral student’s general knowledge of kinesiology, as well as to assess written communication skills. The QE is taken in the spring of the first year of doctoral work. A reading list is provided at the beginning of the spring semester as a guide for those taking the QE. Topics are grouped using the 3 research areas in our graduate program: Motor Systems, Physical Activity & Health, and Physiology. Preparation for the exam is student-driven; a collaborative approach is strongly encouraged. To set aside a common time for preparation and discussion, all students preparing for the QE register for KIN 697Q. The QE is a written exam given over a 2-day period (4 hours/day), and a passing grade must be earned to remain in the doctoral program.

C. Credit Requirements

All credit requirements are minimum recommendations. Faculty sponsors may require additional coursework and research credits, with specific requirements made on a case-by-case basis.

A minimum of 72 credit hours post-baccalaureate is required for the Ph.D. degree. This includes both research and formal course credits. Graduate seminar credits (KIN 891) are required above the 72-hour credit minimum. All Ph.D. students must complete 24 credits in formal coursework, 30 research credits, and must register for Graduate Seminar for each semester while in residence at UMass Amherst.

Note Transfer credits: Some requirements may be satisfied by graduate courses that are transferred from earlier educational experiences. All potential transfer credits must be approved by student advisor and Graduate Program Director (GPD) during the first year of the program. These credits may
not be used to satisfy the 600-800 course level requirement.

**Formal coursework credits:** 24 credits (minimum). A student’s formal coursework plan should include courses (both within Kinesiology and outside the department) that will establish the expertise necessary to further their research goals. To encourage breadth of knowledge within Kinesiology, at least 12 credits should be taken in the student’s area of research, and a minimum of 3 credits is required in one of the other two program areas (Physiology, Physical Activity, Motor Systems).

**Research credits:** 30 credits (minimum). The doctoral degree in Kinesiology is designed to foster excellence in research. Students are therefore required to be involved in research projects throughout their Ph.D. program. Research credits are attained through independent study (KIN 596, 696, 796, etc.) based on active research projects within, and when appropriate, outside the department. The 30-credit requirement includes 12 credits for the dissertation (KIN 899).

**Graduate seminar:** Ph.D students must enroll in the graduate seminar (KIN 891) every semester they are in residence. Ph.D. students will be required to present in seminar at least twice (Dissertation proposals and defenses cannot be presented during graduate seminar). Graduate seminar will be graded on a Pass/Fail basis.

**D. Comprehensive Exam**

Doctoral students are eligible to take their Comprehensive Exam after passing the Qualifying Exam, and when their advisor agrees that the student is ready. In most cases, this exam will occur toward the end of the 2nd year as a doctoral student. Students who have completed most or all of their formal coursework will be best prepared for this exam. The exam is designed as an evaluation of the student’s understanding of the general field of study to be pursued in the dissertation. The Comprehensive Exam Committee will consist of 3 UMass faculty, chaired by the student’s advisor. One of the three committee members may be external to the department, if appropriate. This committee will likely form the basis of the dissertation committee, although this is not a requirement. The advisor will inform the Graduate Program Director (GPD) of the Committee’s membership and the date of the oral exam at least 3 weeks in advance of the oral examination.

The Comprehensive Exam will consist of both a written document and an oral exam. Following discussions with the advisor and each member of the committee to determine the research area, the student will prepare a 5-page text document (plus 1-page conceptual framework diagram/figure) justification of the area of research to be undertaken for the dissertation (references allowed outside this page limit). The document should be formatted as follows: single-spaced, 1” margins, Times New Roman, 12 pts font. The 1-page conceptual framework MUST be either a figure or a diagram (with diagram or figure legend). The document should also include a title page. The justification will succinctly summarize the “state of the science” in the chosen discipline and provide a rationale and direction for the specific area of research that will form the basis of the proposal. At the end of the document, student should identify the knowledge gaps within the chosen discipline. When deemed ready by the advisor and following acceptance of the document by the Comprehensive Exam Committee, an oral exam will be held by the committee to evaluate the student’s depth of understanding of the area of research.

Starting three weeks out from the oral defense date, the student will have two weeks to prepare the written document. This document represents an independent work from the student and is
confidential. Student should NOT share the document with other students or faculty and should NOT get feedback from faculty or fellow students. The written document will be submitted to the Comprehensive Exam Committee one week prior to the oral defense date. The student should prepare a five to ten-minute presentation to be given at the start of the oral defense. Part of the discussion during the oral defense will also serve as a “pre-proposal” meeting in which the student will delineate and defend the questions to be addressed in the proposal. Student should also be prepared to answer questions on topics associated with the student’s general field of studies. One of the outcomes of the meeting should be an understanding of the work required (more critical review of the literature, sharpening of the objectives, preliminary data to show proof of concept, etc.) before the student is prepared to present the formal proposal. The intent of this part of the discussion is for the student to defend the proposal topic, not the proposal itself. The committee will decide if the student has sufficient understanding of the area to be advanced to candidacy and move forward on the proposal. If the Comprehensive Exam Committee is not satisfied with the student’s level of understanding, they will determine what steps are required to remedy the situation to prepare the student for a subsequent re-examination. After the re-examination, if the committee still does not believe the student has sufficient understanding, the student must leave the program.

E. Dissertation
Following successful completion of the Comprehensive Exam, the Ph.D. student is advanced to candidacy and should prepare a dissertation proposal. The dissertation committee will comprise at least three graduate faculty members (a minimum of two from Kinesiology and at least one UMass Amherst faculty member from outside the department). The committee should be formed before the dissertation proposal; the student’s advisor should send an e-mail to the GPD with the names, affiliations and role (e.g. Chair, Member, Outside Member) of the proposed committee. The GPD will submit the proposed committee to the Graduate School for approval.

The proposal must include Chapter I (Introduction), Chapter II (Literature Review), and Chapter III (Methods). This presentation will be a formal seminar that is open to the university community. At least two week prior to the proposal date, copies of the proposal document should be presented to the dissertation committee. At the same time, a copy of the proposal document, a short abstract, and an announcement flyer must also be given to the GPD for public display in the Kinesiology Department. A failure to provide a copy of the proposal to both the committee and the GPD assistant (at least 2 weeks) prior to the scheduled proposal presentation will necessitate a rescheduling of the proposal presentation date. The PhD proposal is open to the public and will follow the format of a 20-30 minute presentation followed by questions and discussion from the audience. Following this discussion, the student will have a closed discussion with their committee members.

The dissertation defense cannot occur until seven months have elapsed following the filing of the approved dissertation proposal with the Graduate School.

The final dissertation will include the proposal (Chapters I to III) and two or more manuscripts that are either published or prepared for submission to peer reviewed journal(s). The dissertation defense will be an open formal seminar with committee members in attendance along with other faculty and students from the university community. In accordance with Graduate School rules, the student must notify the GPD of the dissertation title and the defense date, time, and location so that a memo from the
GPD may be sent to the Graduate School no later than 4 weeks in advance of the defense date. As with the proposal, copies of the dissertation should be presented to the committee at least two weeks prior to the defense date. At the same time, a copy of the dissertation, a short abstract, and an announcement flyer must also be given to the GPD for public display in the Kinesiology Department. A failure to provide a copy of the proposal to both the committee and the GPD assistant (at least 2 weeks) prior to the scheduled defense will necessitate a rescheduling of the final defense date. The PhD defense is open to the public and will follow the format of a 30-40 minute presentation followed by questions and discussion from the audience. Following this discussion, the student will have a closed discussion with their committee members.

Ph.D. Degree checklist

- * Advisor sends email to Graduate Program Director (GPD) appointing committee for student’s Comprehensive Exam (cc: Graduate Program Assistant)
- * Advisor sends email to GPD stating when student will start writing for Comprehensive Exam
- * Advisor sends email to GPD stating that student has passed Comprehensive Exam (cc: Graduate Program Assistant)
- Graduate Program Assistant sends Comprehensive Exam results memo to Graduate School
- * Advisor sends email to GPD that student has completed all coursework (cc: Graduate Program Assistant)
- Graduate Program Assistant issues Nomination to Candidacy form to be signed by GPD
- * Advisor sends email to GPD appointing dissertation committee (cc: Graduate Program Assistant)
- Graduate Program Assistant sends signed memo announcing student’s dissertation committee to Graduate School
- * Advisor sends email to GPD that student is ready to propose (cc: Graduate Program Assistant)
- Graduate Program Assistant sends student Room Reservation Form
- Student returns Room Reservation Form – Dissertation proposal scheduled
- Flyer posted, emailed, and uploaded to Box as soon as the room has been reserved and the title of dissertation proposal is known
- Student uploads copy of dissertation proposal to Box
- * Advisor sends email to GPD that the dissertation proposal has been passed and that all edits to the document have been made (cc: Graduate Program Assistant)
- Student uploads final version of dissertation proposal to Box
- * Student obtains signatures from dissertation committee and turns in signed dissertation proposal signature page to Graduate Program Assistant
- Graduate Program Assistant sends proposal signature page and proposal document to Graduate School
- * Advisor sends email to GPD that the student is ready to defend (cc: Graduate Program Assistant)
  - If less than 7 months between submission of proposal outline and defense, Grad School needs to approve
Graduate Program Assistant sends student Room Reservation Form
Student returns Room Reservation Form – Dissertation defense scheduled
Graduate Program Assistant sends memo announcing student’s defense to Graduate School
Flyer posted, emailed, and uploaded to Box as soon as the room has been reserved and the title of the dissertation is known
* Advisor sends email to GPD that dissertation defense has been passed and that all edits/revisions have been made (cc: Graduate Program Assistant)
Student obtains signatures from dissertation committee members for final oral defense results memo and returns the document to Graduate Program Assistant
Graduate Program Assistant sends copy of final oral defense results memo to Graduate School
Student uploads final version of dissertation to Box
Graduate Program Assistant sends original signature page and PDF of dissertation to Graduate School
Student uploads dissertation to ScholarWorks
Student turns in completed PhD Degree Checklist and unofficial transcripts to Graduate Program Assistant at least three weeks prior to graduation deadline
Student turns in completed PhD Degree Eligibility Form with signatures from Department Chair and GPD at least two weeks prior to graduation deadline
Student turns in binding receipt for dissertation (2 copies required -- advisor approved version) at least two weeks prior to graduation deadline
Student takes Survey of Earned Doctorates and emails certificate to Graduate Program Assistant
GPD conducts degree audit at least two weeks prior to the published Graduate school graduation deadline

* Indicates items that your advisor needs to do.

Graduate School Requirements

In addition to Kinesiology requirements, students must satisfy all Graduate School requirements. The University confers degrees three times a year (February, May and September) and sponsors one formal graduation ceremony held in late May. To apply for a February degree, all paperwork must be submitted to the Graduate School by mid-December; for a May degree, by mid-April; for a September degree, by the end of August. September degree recipients of a preceding year, February degree recipients, and May degree applicants are eligible to participate in the May graduation ceremony. [Contact the Office of Degree Requirements at the Graduate School for exact dates for all deadlines.] Other helpful resources are the Graduate School Handbook and Guidelines for Doctoral Dissertations, both found online at the Graduate School web site http://www.umass.edu/gradschool.

From the Graduate School, all candidates must satisfy the following requirements:
• Complete all course work
• Comprehensive Exam passed
• Dissertation Committee appointed by the Graduate Dean (recommended by GPD)
• Dissertation Proposal received by Graduate School at least 7 months prior to Dissertation Defense
• Dissertation Defense passed (Must be scheduled and passed before deadline date)
• Submit Doctoral Degree Eligibility Form signed by the student, the Graduate Program Director, and the Department Chair
• Electronic submission of dissertation. See related information on the Graduate School web site http://www.umass.edu/gradschool.

II. Evaluation of Satisfactory Progress

Progress toward the Ph.D. degree: The Ph.D. candidate is expected to demonstrate academic excellence worthy of the highest academic degree. Satisfactory and reasonable progress toward completion of the Ph.D. degree entails considerably more than completion of formal course work. The Ph.D. student is expected to grow intellectually, not only through acquisition of knowledge and basic research competencies, but also by developing independent thinking beyond the immediate experiences of the classroom and laboratory. The ability to devise strategies for assessment of the validity and limitations of available knowledge should go hand-in-hand with mastery of technical skills and increased comprehension of data systems. Since the linkages between theoretical and applied knowledge cannot always be explicitly presented in formal course work, the Ph.D. candidate is expected to nurture intellectual growth through a variety of experiences beyond formal course requirements, such as:

• Participation as a research subject,
• Literature searches,
• Development of new equipment and test methodologies,
• Involvement in the planning of research projects,
• Participation in daily laboratory activities and assisting in data collection,
• Data analysis including use of statistical methods,
• Formal write-up of research papers leading to submission for publication,
• Presentations at scientific conferences,
• Writing of grant proposals,
• Consultation with and advising of newer graduate students,
• Attending conferences and formal lectures,

Progress evaluation: At the end of each academic year the Ph.D. student will submit an Annual Progress Report to their advisor. The Ph.D. advisor will schedule a conference with the student to review and evaluate the report, make suggestions for improvement, and evaluate progress toward the Ph.D. degree as Satisfactory, Marginal, or Unsatisfactory. The Annual Progress Report will then be sent to the GPD by the student’s advisor and will become a permanent record in the student’s folder.

In the event that an advisor feels that a student is making unsatisfactory progress towards their
degree, the advisor will first speak with the student. Following that meeting, the advisor will fill out an “unsatisfactory progress report form.” On the form, the advisor will indicate what areas the student is not making progress in and will propose what corrective actions can be taken. This will be sent to the graduate program director and the student. The student, GPD, and advisor will then have a formal meeting to discuss what corrective actions can be taken and to determine a timeline for those actions to be completed. Once agreed upon, the student, advisor, and GPD will sign off on the action plan. At the end of the proposed timeline, the student's progress will be reassessed and at that point, if they are still making unsatisfactory progress, they may be asked to leave the program.