



UNIVERSITY OF
ARKANSAS

MASTER OF SCIENCE DEGREE:

EXERCISE SCIENCE

GRADUATE MANUAL

**DEPARTMENT OF HEALTH, HUMAN
PERFORMANCE & RECREATION**

Program Faculty Directory

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Introduction

The Master's Program in Exercise Science provides an expansive study of physiology, biomechanics, sport psychology and physical activity. Students can study the mechanics, responses and adaptations to training that relate to promoting health, preventing disease, and enhancing performance. Graduates will understand how exercise enhances human function and capacity through current research-based curriculum, practical experiences, and original research. Students will have access to fully equipped laboratories located in the [Exercise Science Research Center](#) (ESRC).

The Master of Science in Exercise Science degree prepares students with the advanced knowledge and skills needed to become an American College of Sports Medicine certified Exercise Physiologist, cardiac rehabilitation specialist, strength and conditioning coach, and many others. Graduates will be prepared for competitive fields in exercise & fitness, strength & conditioning, health & wellness, and health care. This program also prepares students for advanced graduate work including doctoral degrees and clinical/medical training.

The Exercise Science Research Center (ESRC) located within the Health, Human Performance, and Recreation (HHPR) department serves both the undergraduate and graduate programs in Exercise Science. The ESRC mission is 1) To serve as a multidisciplinary unit for the initiation and conducting of research focusing upon health, exercise, and performance; 2) To provide educational outreach programs for targeted groups with an emphasis on collaborative and cooperative programs with agencies in the state and region; 3) To provide additional educational experiences for our undergraduate and graduate students in exercise science; 4) To emphasize collaborative and cooperative approaches to research and programming. The Office for Studies on Aging serves as a resource for students interested in gerontology, addressing the 'graying of America' through research and outreach opportunities. The Office for Sport Concussion Research serves as a resource for improving, through education, research, and outreach initiatives, the standard of care for athletes with sport-related concussion.

Admission Requirements

For acceptance to the master's degree in addition to the general requirements for admission to the [Graduate School](#), an undergraduate degree and the following admission standards: a cumulative undergraduate GPA of 3.00, or if the overall undergraduate GPA is between 2.70 and 2.99, the student must have a 3.00 GPA in the last 60 hours of undergraduate coursework. In addition, applicants must also submit a statement of purpose, resume/CV, and the contact information for three references.

Accelerated Master's Degree Program

The Accelerated Masters (4+1) was designed to allow students to gain a Bachelor of Science in Exercise Science and Master of Science in Exercise Science degree while saving money and time in the process. This program allows our outstanding undergraduates the opportunity to earn credit towards a graduate degree while they complete the final requirements for their undergraduate degree. Students in the accelerated program will complete up to 12 graduate level credits at the undergraduate tuition rates.

Application to the Accelerated Master's Degree Program

Applicants to the Exercise Science M.S. (EXSCMS) under the Accelerated Master's Program must be a University Arkansas undergraduate pursuing a bachelor's degree in exercise science, completed at least 60 credit hours towards the EXSCBS degree, have taken or are currently enrolled in EXSC 3153 (Exercise Physiology), and must have a cumulative GPA of at least 3.25.

All prospective students who apply through the Accelerated Master's program are evaluated by the Exercise Science faculty who use a variety of factors including GPA, resume/curriculum vita, 500-word interest statement, and contact information for three references. GRE scores are not required to apply to M.S. program through the 4+1 program.

Accelerated (4+1) Bachelor's to Master's in Exercise Science

For Senior Year

Fall Semester

EXSC 4323 Exercise Prescription	3
EXSC 4773 Performance and Drugs	3
EXSC 5513 Physiology of Exercise I	3
ESRM 5393 Stats in Education and Health Professions	3
PHYS 2013/2011L College Physics 1	4
Year Total	16

Spring Semester

EXSC 4903 Internship in Exercise Science	3
HHPR 5353 Research in HHPR	3
EXSC 4833 Exercise Applications for Special Populations	3
Undergraduate General Elective	3
Related Elective (Graduate level)	3
Year Total	15

As Graduate Student

Fall Semester

EXSC 5323 Biomechanics 1	3
Related Elective (Graduate level)	3
EXSC 5593 Advanced Exercise Testing and Prescription	3
Year Total	9

Spring Semester

Related Elective (Graduate level)	3
Related Elective (Graduate level)	3
Related Elective (Graduate level)	3
Year Total	9

Advising

Once admitted to the degree program, the student will be assigned an academic advisor typically based upon the student's research or academic interests. Advisors work with the students to develop an academic plan (program of study) and appropriate committees. It is expected that the academic advisor and student meet periodically each semester to discuss degree progress and program expectations. It is the student's responsibility to register for courses that are appropriate for the Master's degree program in Exercise Science, as well as become familiar with course rotation sequences.

Graduate reviews involving both the academic advisor and student are conducted annually and submitted to the University of Arkansas Graduate School.

Occasionally, a student may select to change an academic advisor. The process of formally changing an advisor requires (1) the previous advisor and new advisor agreeing to the change, and (2) the student sending an email to the graduate coordinator requesting the change. Failure to know or follow program guidelines is NOT considered a legitimate reason for not completing program requirements. Students should maintain regular contact with their advisor to ensure smooth progress through the degree program.

Time Limit for Degree Completion

All requirements for a master's degree must be completed within six consecutive calendar years from the first semester of enrollment in that program.

Transfer of Credit

A maximum of 6 hours of course work may be transferred from another institution towards a master's degree at the University of Arkansas. A [form](#) is required and may be obtained from the Graduate School. In addition, an official transcript must be on file with the Graduate School.

The following are the criteria for acceptable transfer credit:

- The course must have been regularly offered by a regionally accredited graduate school.
- The course must have been a bona fide graduate level course, approved for graduate credit and taught by a member of the graduate faculty.
- The student desiring to transfer graduate credit must have been enrolled as a graduate student in the graduate school at the institution offering the course.
- The course must appear on an official transcript as graduate credit from the institution offering the course.
- Only graded courses are subject to transfer and the course grade must be a "B" or "A."
- The course must be recommended by the student's major adviser and be applicable to the degree requirement at the University of Arkansas.
- The student must have satisfied the 24 hour residence requirement.

Program of Study

A minimum of 30 graduate credit hours beyond the baccalaureate is required for the degree. Students may transfer up to and including 6 credit hours of graduate course work from another degree program into their program of study to satisfy the minimum credit hour requirement if approved by the student's Academic Program Advisor and the University of Arkansas Graduate School. Specific degree program requirements are listed below.

Exercise Science (30 Credit Hours)

REQUIRED RESEARCH COMPONENT (6 CREDITS):

ESRM 5393 Applied Educational Statistics **OR**
ESRM 6403 Elementary Statistics and Data Processing Applied to Education
HHPR 5353 Research in HHPR

REQUIRED CORE COURSES (9 CREDITS):

EXSC 5513 Physiology of Exercise I
EXSC 5323 Biomechanics I
EXSC 5593 Advance Exercise Testing and Prescription

REQUIRED FOR THESES (6 CREDITS)

KINS 600V Master's Thesis

APPROVED ELECTIVES (9 or 12 CREDITS)

The student, in consultation with the Academic Advisor, will identify further coursework (electives) in Exercise Science that are consistent with the goals and objectives of the student and institution. Coursework may be selected from several related disciplines or a single discipline. The following is not an exhaustive list:

EXSC 5333 Instrumentation in Biomechanics
EXSC 5353 Exercise Psychology
EXSC 5443 Seminar in Brain Injury and Behavior
EXSC 5523 Metabolism in Exercise
EXSC 5533 Cardiac Rehabilitation
EXSC 5543 Cardiovascular Function in Exercise
EXSC 5613 Physical Dimensions of Aging
EXSC 5643 Advanced Psychology of Sports Injury & Rehabilitation
EXSC 5773 Performance and Drugs
EXSC 6313 Muscle Physiology
EXSC 6323 Biomechanics II
EXSC 6343 Physiology of Exercise II
EXSC 6443 Thermoregulation & Fluid Balance
KINS 589V Independent Research

Satisfactory Grades

Students are expected to receive satisfactory grades to continue in the program. The HHPR Department adheres to the University of Arkansas' Graduate School guidelines regarding probationary status and program dismissal. The official Graduate School policy states, *"Whenever a regularly admitted graduate student earns a cumulative grade-point average below 2.85 on graded coursework taken in residence for graduate credit, he/she will be warned of the possibility of academic dismissal. When a graduate student has accumulated a minimum of 15 hours of graded coursework taken in residence for graduate credit with a cumulative grade-point average below 2.85 and has received at least one warning (this usually is delivered via the Graduate School) he/she will be academically dismissed from the Graduate School."* ([UA Graduate Catalog](#))

A minimum cumulative grade point average of 3.00 is required for graduation. Grades of either "D" or "F" count toward grade point average but do not satisfy degree requirements and must be either re-taken or another course substituted in place of it with advisor approval.

Comprehensive Assessment (Capstone Experiences)

Students will choose between one of the two following options for their "Capstone Experience".

Option 1 – Master's Thesis Option (6 hours)

Students complete a rigorous research project according to the strict guidelines for thesis research established by the Graduate School. All Graduate School regulations and deadlines must be adhered to in the completion of the thesis. Students presenting a master's thesis as a part of the requirements master's degree must register for a minimum of six semester hours of master's thesis. The Master's Thesis Committee consists of a Thesis Director and at least two other members of the graduate faculty. Consult your thesis director regarding registration for thesis credit hours.

Option 2 – Comprehensive Examination

Any student who does not choose the thesis MUST take a Comprehensive Examination. Students should consult with their advisor concerning the topics to be covered on the exam.

Thesis Chair and Committee (Option I)

The thesis is designed to provide students with a significant research experience. For this option, 6 hours of thesis credit is required. Students should familiarize

themselves with, and follow all procedures set forth in the Graduate School's [*Guide for Preparing Thesis*](#), available through the Graduate School's web page.

The student should begin the process by selecting a qualified thesis chair. Thesis chairs must be from the student's academic discipline and have either Graduate Faculty I or II level status. It is the student's responsibility to form a Master's Thesis Committee, which serves to give guidance and direction to the student in regards to the thesis. The composition of the thesis committee must include a minimum of three faculty of which two must be from the student's academic program area, including the chair. The Master's Committee form can be found [here](#).

After the formation of the Thesis Committee, the student development a thesis proposal (original research idea). The proposal includes Chapters 1 (Introduction), 2 (Review of the literature) and 3 (Methodology) of the thesis. During the preparation of the proposal, the student may consult with members of the committee for advice and direction. At least two weeks prior to the proposal presentation, and AFTER receiving permission from their Chair, the student submits the proposal to each committee member. The presentation of the proposal will serve as a contract between the committee and the student. Approval of the proposal indicates that if the students complete the project as described (and appropriately interprets the results), the student will be in favorable standing at time of defense. The proposal presentation will be open to all departmental faculty and students.

Students will make a formal presentation and will respond to questions from thesis committee members. The thesis committee will then discuss the proposal, recommend how the student should proceed with the thesis, and indicate changes to be made within the proposal.

After the Master's Thesis Committee has approved the thesis, the final step is completion of the study. If necessary, chapters 1-3 are revised according to comments made by the committee at the proposal meeting. Students should follow the procedures approved in the thesis proposal meeting to collect data, analyze data, and prepare the thesis.

Institutional Review Board (IRB) or Institutional Animal Care and Use Committee (IACUC) Approval

IRB or IACUC approval is required PRIOR to collecting data. Students may not begin thesis research until the IRB or IACUC protocol has been approved by the University. All necessary forms are available online. The *Protocol Form* must be signed by the student's Thesis Chair. Also, the IRB or IACUC application

(protocol) should be submitted after (not before) a committee-approved thesis proposal (first three chapters).

If necessary, during the data collection and analysis process, the student may request a meeting of the Thesis Committee to review procedures, discuss problems, and/or approve modifications. After completing data collection and analysis, the student in consult with his/her advisor can choose one of two styles to complete the written portion of the thesis: 1) the student can write chapter 4 (results) and chapter 5 (discussion, implications, and suggestions for future study) or 2) the student can write chapter 4 using a manuscript style (introduction, methods, results, and discussion). Any major deviations from the proposal should be presented in writing and approved by the Thesis Committee.

Changing or Revising a Committee

If a committee has been approved and is on file with the Graduate School, any proposed changes or revisions to the committee must be submitted to the Graduate School for approval. Each member leaving or being removed from a committee must submit authorization agreeing to the change. The only exception to this pertains to the chair of the thesis committee. The Graduate School considers the thesis to be based on a mutual agreement between the faculty member and the student to work cooperatively on a research project of shared interest. Either the graduate student or the faculty member may dissolve this relationship by notifying the other party, the departmental chairperson, and the Graduate Dean. However, the student and the advisor should be warned that this may require that all data gathered for the thesis be abandoned and a new research project undertaken, with a new faculty advisor. See the [Graduate Student Grievance Policy](#). NOTE: Leaving the employment of the University does not constitute automatic removal from approved committee assignments. Most faculty members complete their graduate committee responsibilities; therefore, removal from an approved committee must be initiated by the departing faculty member.

Thesis Defense

The defense of the completed thesis should follow the guidelines established at the University of Arkansas, College of Education and Health Professions. At least two weeks prior to the defense, and AFTER receiving approval from their Chair, the student provides a complete thesis draft to the committee that includes all 5 chapters, as well as tables, figures, appendices, and reference notes. The defense presentation will include aspects of chapters 1 and 2, but will primarily focus on the methods, results, and conclusions. Approximately 2 weeks prior to the formal defense, the student will announce the presentation to all departmental faculty and students. When the thesis is successfully defended, the Chair should inform the

Graduate Coordinator for degree audit clearance. The student then makes final changes on the thesis manuscript and submits the final completed copy to the Graduate School. Required documents for completion can be found here:

[Thesis Title](#)

[Intellectual Property Disclosure](#)

[Thesis Submission Form](#)

Comprehensive Examination (Option 2)

Successful completion of a written comprehensive examination is a degree requirement for students who select option 2 as their capstone experience.

The comprehensive written examination should be taken during the student's last semester of coursework. Comprehensive exam questions will be prepared by members of the Master's Advisory Committee. All members of the advisory committee will be provided an opportunity to write exam questions. All advisory committee members may read the student's responses for each item, though each faculty member is only required to read his/her questions. Written examination questions will cover the following four areas: Exercise Physiology, Biomechanics, Laboratory Practicum, and Research in HHPR. Students will be allowed a four-hour time limit to complete the examination. Specific dates and times for the written comprehensive exam are determined by the comprehensive examination committee.

Based upon the student's written responses the committee members will determine if the student successfully passed the exam (May need to develop a rubric for grading consistency), needs to retake portions of the exam, or failed the examination. Successfully passing the exam requires a majority vote by the advisory committee.

If the student responses on any portion of the written comprehensive exam are deemed to be weak or questionable (less than a 4 on a 1-4 scale) as judged by the advisory committee, the student will be asked to either rewrite parts of the examination and/or orally defend his/her answers to the content experts and/or the full committee. The comprehensive examination committee has the option of giving the student a different question (although the content area will be the same) in the area identified as a weakness. If after the rewrite and/or oral defense the student's responses to the question or questions remain either weak or questionable the student fails, the exam. Students will be recommended for program dismissal by the committee if they fail the comprehensive exam a total of three times.

Required Forms to Graduate

For the Master's degree, the graduate school requires that the following forms be completed by the student: IRB or IACUC approval form if the student selects option II and is collecting data. Required graduate forms for a Master's student who completes a thesis include: [Master's Advisory Committee form](#), [Master's Thesis Committee form](#), [Master's Thesis Title form](#), [Intellectual Property Disclosure form](#), [Thesis Submission form](#), and IRB or IACUC approval form.

Note – Chair must inform the Graduate Coordinator of dates for successful completion of comprehensive exams and capstone project or thesis. The Graduate Coordinator will clear these items on the degree audit. The Master's Record of Progress form is no longer required.

Master's Program Completion Guidelines

REQUIREMENT	DEADLINE	HANDLING	PROCEDURE
Plan a Program of Study	Immediately following admission to program.	Major Advisor Student	First advising session
Comprehensive Exam	Last semester of coursework	Major Advisor Student	Fall or Spring Dates
Comp Pass/Fail	Following examination	Major Advisor and Advisory Committee	Form available on graduate school website. Signed by major advisor and returned to graduate coordinator.
Graduation application	Deadline is typically early in the semester. Check dates on graduate school website.	Student	Pay fee through UA Connect.

Additional Guidelines for Thesis Option

REQUIREMENT	DEADLINE	HANDLING	PROCEDURE
Program Advisory Committee	Start of program	Student Major Advisor	Form available on graduate school website. Obtain signature of committee members. Return form to graduate coordinator.
Selection of Thesis Committee	6 months prior to the date of the defense	Student Thesis Director Committee Members	Form available on graduate school website. Obtain signature of committee members. Return form to graduate coordinator.
Thesis Title Approval	After Thesis Proposal meeting	Student Thesis Director Committee Members	Form available on graduate school website. Obtain signature of committee members. Return form to graduate coordinator.

IRB/IACUC approval if human/animal subjects are involved in research/intellectual property disclosure if anything was created or invented for research	After Thesis Proposal meeting and before data collection	Student Thesis Director	Form available on RSSP website.
Intellectual property disclosure and thesis submission forms	Intellectual property disclosure and thesis submission - Prior to thesis defense	Student Thesis Director	Forms available on graduate school website. Obtain signatures and return forms to graduate coordinator.

HHPR Department Policies

1. Faculty agreed that the two week (10 working days) reading time requirement of thesis be enforced among all graduate students.
2. APA format has been approved for thesis.
3. Thirty credit hours is the minimum number of hours required to complete a Master of Science degree in the HHPR Department. A maximum of six credit hours from Master's coursework may be transferred into the program if approved by the student's advisor and the University of Arkansas Graduate School.
4. A minimum cumulative G.P.A. of 3.0 is required for graduation. "D" or "F" grades count towards grade point average, but do not satisfy degree requirements and must be either taken again or another course substituted in place of it with advisor approval.
5. HHPR Department policy regarding walking at graduation ceremonies: masters students are only allowed to walk at graduation ceremonies if they have signed up for all final coursework during the semester that they are planning to graduate and either have passed their written and or oral comprehensive exam or successfully defended their thesis. Note – a successful defense of the thesis implies that all committee members have agreed that the student has passed the defense even though the student may have to make minor corrections/changes to the document. Also, all committee members may not have completely signed off on either the student's thesis or record or progress.
6. Students need to be sure to follow all Graduate School procedures, timelines, and deadlines to successfully matriculate through the degree program. This includes deadlines for thesis submission and graduation. Lastly, Master's students must apply for graduation at the UA Graduate School Office early in the semester in which they plan on graduation and must meet the official thesis deadline date established by the graduate school each semester.