Michigan Technological University
Kinesiology and Integrative Physiology

GRADUATE PROGRAM HANDBOOK

Department of Kinesiology and Integrative Physiology

MS in Kinesiology

Ph.D. in Kinesiology & Integrative Physiology

MICHIGAN TECHNOLOGICAL UNIVERSITY

2025-26

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1 Introduction to the Program

1.1 Kinesiology & Integrative Physiology (KIP) Program Mission and Values

1.1.1 Mission Statement

To cultivate student success, learning, and discovery. To promote and enhance health. To use collaborative approaches that benefit from diverse contributions to identify innovative solutions to both common and challenging health issues.

1.1.2 Vision Statement

To be a center of opportunity, access, and excellence that enhances the quality of life in the Upper Peninsula of Michigan and beyond through interdisciplinary leadership in instruction, research, and service.

1.1.3 Core Values

- Inclusion
- Altruism
- Empathy
- Creativity
- Academic Excellence

1.2 Degrees Offered

The Department offers the following degree programs

- Masters in Kinesiology (MS)
- Doctorate in Kinesiology & Integrative Physiology (PhD)

For information regarding key contacts, including the Graduate Program Director, William Cooke PhD, and Graduate Program Assistant, Megan Johnson, please visit the website.

2 Program Specific Information

2.1 KIP Faculty and Staff

The KIP department has research faculty with active research. Contact information and research information can be found on the KIP department website.

Graduate students are featured on the KIP department website (graduate student directory). Students will be contacted by the administrative aide to provide their research interests and educational background.

2.2 Key Graduate School Administration

Dean of Graduate School: Will Cantrell, PhD

Coordinator of Graduate Degree Services: Karen Hext

Contact information for graduate school staff can be found on the Graduate School website.

2.3 KIP Department Facilities Access and Space Assignments

The department is primarily located on the first floor of the HSTEM Complex. Most faculty, staff, and student offices are located on the first floor of the building. All research and teaching labs, except for the animal research labs, are located on the first floor of the HSTEM complex.

All graduate students will have access to the graduate student spaces, the KIP department kitchen area, the KIP teaching labs (HSTEM 157and 159), the Roy and Ruth Jurva KIP Student Lounge (HSTEM 158), and the first-floor HSTEM conference rooms (HSTEM 141 and 144). Graduate students will be assigned a desk in one of the graduate student spaces in the HSTEM building.

All access in the HSTEM Complex is via a HuskyCard. It is important to always carry this card to access labs, offices, and conference rooms. Prior to the start of the first semester, students will be contacted by the KIP administrative aide with the procedure for acquiring building access. Please clean up all spaces, return any borrowed items, and close all doors when leaving these spaces.

2.4 Research Spaces and Equipment

Graduate Students will only have access to the research laboratories that are relevant to their research studies, as determined by their advisor. Students should contact their research advisor directly for access to relevant research laboratory space and equipment.

2.5 Conference Room Bookings

HSTEM first-floor conference rooms (144 and 144) can be used for meetings with advanced reservations only. All reservations are booked through the administrative aide. A schedule for each room can be found on the digital display near the conference rooms. Please make sure that when you are done using the room, all furniture and equipment are returned to the way they were found.

2.6 Mail Service

All graduate students have a mailbox in the pantry/copy room on the first floor of the HSTEM Complex (HSTEM 132). Students are expected to check their mailboxes regularly.

2.7 Responsible Conduct of Research (RCR)

All graduate students must complete basic responsible conduct of research (Basic RCR) training in their first semester at Michigan Tech. This course is offered during fall orientation and is administered by the Graduate School. Students will be automatically enrolled in Orientation to Graduate Studies and Research in Canvas at the start of their admission term. Students must complete the training prior to week seven of their first semester, or a hold will be placed on their account.

Students may also be required to complete additional training courses by their advisor based on their research projects and lab.

Students enrolled in the MS Thesis and PhD programs are also required to complete Advanced RCR training in their second or third semester at Michigan Tech. Students may not graduate or enter candidacy if the training is not complete. The university offers several courses that may satisfy the Advanced RCR requirements.

- As part of Advanced RCR training, students are required to complete human subjects training using the full social/behavioral research course offered by the CITI program.

2.8 Grades

To apply credits earned in non-research courses to a graduate degree or graduate certificate, the following conditions must be met.

- Must be graded with a letter grade. Pass/fail, audit, or satisfactory/unsatisfactory grades cannot be used on a degree schedule, except when applied as research credits.
- Must maintain a B or better in their courses*
    - Up to 6 credits may be “BC” used for the degree.

2.9 Student Academic Standing

To remain in good academic standing, students must meet all the following conditions:

- Maintain a cumulative overall GPA of at least 3.0.
- Receive grades of "S" (satisfactory) in research credits.
- Maintain continuous enrollment, as defined by the Graduate School.
- Make satisfactory progress toward completion of the degree during each academic-year semester and summer session of enrollment.
- PhD students must also pass the Qualifying Exam required for completion of no more than two attempts.

2.10 Academic Probation

If a student fails to maintain 'good' academic standing, the student will be subject to a sanction of graduate academic probation, graduate academic suspension, or graduate academic dismissal. See the Graduate School Policies and Procedures for more information.

2.11 Grievance Procedure

Students have the right to fair and equitable treatment by faculty members, staff, and students. Graduate students must have exhausted all other avenues for resolution before submitting a grievance to the Graduate School. Please consult with the KIP graduate program director and/or the KIP department chair to address a concern or complaint about a member of our campus community. If the issue cannot be resolved within the department, contact the University Ombuds Office or the Dean of the Graduate School.

Michigan Tech has several offices on campus that handle specific categories of grievances. Please visit the Graduate School website for more information on these policies and procedures.

2.12 Leave of Absence Policy

Graduate students may encounter circumstances that make it difficult for them to make progress toward their degree. These circumstances may include, but are not limited to, financial difficulties, personal challenges, bereavement, or medical care for a family member. Although continuous enrollment is expected to make progress toward the degree, in some situations, it will be in a graduate student's best interests to take a leave of absence so they have the necessary time to resolve these circumstances. While on a leave of absence, they will not be expected to make progress toward their degree.

Students must follow all policies and procedures for obtaining a leave of absence and readmission, and reinstatement after completing the leave of absence. The Graduate School has separate policies for graduate students requesting a leave of absence due to personal medical reasons, being called for military service, or parental leave. This includes requesting a leave of absence before the semester begins. Students should familiarize themselves with these policies.

2.13 Voluntary Withdrawal

If a student is unhappy in the program, on academic probation, or not making adequate yearly progress, the student is encouraged to discuss their options with their advisor and/or the graduate program director. In some cases, the advisor may suggest that the student withdraw from the program or find another advisor. Procedures for identifying another advisor are included in Section 3 of this handbook.

2.14 Dismissal

A student may be dismissed from the program if they do not maintain good academic standing, fail to make satisfactory progress toward a degree, or fail the Doctoral Qualifying Exam twice. The dismissal procedure and appeals process are described in the Graduate School Policies and Procedures.

2.15 Academic Break and Holiday Policy

Students who receive funding through the university in the form of a teaching or research assistantship or fellowship are entitled to university holidays. Breaks between academic terms, including winter break, are not automatically considered holidays or time off. Students are responsible for discussing their schedule and expected work location with their supervisor or advisor and seeking prior approval for any absences.

2.16 Academic Travel Policy

Students who travel as part of their research, coursework, or academic outreach must fill out the KIP Travel Request Form to seek approval from the department prior to their travel. Students must fill out the International Travel Request form at least 30 days prior to international travel. Consult specific forms or your advisor for further information about travel request deadlines.

The department may provide funds to graduate students presenting research at professional meetings and conferences. All students are required to apply for a GSG Travel Grant when traveling to a conference. Students should discuss funding options and expectations for travel with their advisor.

For all departmentally sponsored travel, students must submit a Travel Expense Report along with itemized receipts to the administrative aide, Amy (amye@mtu.edu), in the KIP Main Office (HSTEM 139) no later than **one week** after their last day of travel.

2.17 Academic and Scientific Integrity

Academic regulations and procedures are governed by university policy. Academic misconduct cases will be handled in accordance with the university's policies. Scientific misconduct will be handled in accordance with the university's policies and, where necessary, the policies of funding agencies.

2.18 Assessment

Student work products (exams, essays, projects, etc.) may be used for university, program, or course assessment. All work used for assessment purposes will be anonymized.

2.19 Accommodation Policies for Students with Disabilities

Students with a disability that could affect their performance in their program or that requires an accommodation under the Americans with Disabilities Act should contact their instructor,

advisor, and/or Disability Services as soon as possible so that appropriate arrangements can be made. Note that Disability Services can provide support and resources even if a student does not have documentation for their disability.

2.20 Institutional Equity

The Department of Kinesiology and Integrative Physiology is committed to cultivating a just and respectful community that is accessible to all individuals and free from discrimination, harassment, and sexual misconduct. Michigan Tech has a policy of affording equal opportunity to all of its employees, students, applicants for employment, and applicants for admission without regard to race, religion, color, national origin, age, sex, sexual orientation, gender identity, height, weight, genetic information, or marital status, disabled veteran status, veteran status, or disability. Michigan Tech complies with all federal and state laws and regulations regarding discrimination, including the Americans with Disabilities Act of 1990.

2.21 Student Workload Standards and Expectations

Success in research and the development of expertise requires extended deliberate practice and the thoughtful investment of one's time in scholarship and professional development. Fully funded students should expect that the combination of coursework, research, and GRA/GTA responsibilities will require more than 40 hours, but less than 60 hours, of work per week.

Typically, one credit of coursework or research should equate to about 3.5 hours of a student's time per week. Full-time students (enrolled with 9 credits) should expect to spend 30 or more hours per week on coursework and research (e.g., 9*3.5 =31.5).

Students supported by a grant or department funds (e.g., GRA, GTA, GTI, GADI, etc.) are expected to perform work for the university (e.g., teach courses, provide research support to faculty). Students on full assistantship appointments are expected to work 20 hours per week on activities related to their assistantship. Because all students on assistantships are also enrolled full-time, students are expected to spend additional time on work appropriate for nine credits of coursework and/or research activities.

All assistantship recipients are full-time students who perform their duties in concurrence with work appropriate for at least nine credits of coursework or research activities. Therefore, these 20 hours per week are in addition to the amount of time you spend on coursework or research credits. For more information on the graduate assistantships, please visit the Graduate School webpage. For example, a GTA position for a student taking 9 credits of research would equal a 51.5-hour/week workload.

Note that these are guidelines, not strict minima or maxima. The amount of work required to be successful may vary between semesters, classes, and individuals. Students should discuss their specific schedule and work-related expectations with their research advisor or assistantship supervisor each semester, including meetings and reporting of hours. Depending on the phase and nature of the project, some weeks may require more (or less) work.

2.22 Timely Written Feedback

Students in the MS Thesis or PhD programs will receive constructive written feedback from their research advisor(s) at least annually. This feedback will include an assessment of the students' progress in the program, including strengths and weaknesses, mutually agreeable goals, professional development milestones, and other issues. This formal process ensures that both the student and advisor(s) are aware of the student's academic progress and plans.

At the end of each spring semester, students and advisors must complete a mandatory evaluation and submit the *Annual Graduate Student Progress and Evaluation Form*. The *Annual Student Progress Evaluation Form* verifies that students are making timely progress toward degree completion and provides students with guidance and feedback. Annual Student Progress Evaluation Forms are also a factor in determining students' future funding in the program. Apart from certain students on leave, any student not making satisfactory progress toward the degree will not be considered in good standing and could lose funding.

Students and their advisor(s) must discuss this evaluation process. When completing the form, they should review the form from the previous year and use it to help reflect on the extent of the student's progress. Satisfactory progress will be indicated on the form by a designation of "satisfactory" from the graduate program director. A designation of "serious concerns" will be accompanied by an explanation of any actions the students must undertake to return to satisfactory status (the student's status will then be reviewed again the following semester). Any smaller deficiencies that are identified in a student's performance, written feedback will be provided by the advisor at the end of the following semester, specifically addressing the area(s) of deficiency, timeline for making up the deficiency, and consequences for continued. **Once the form is complete, submit a signed, digital copy to the graduate program director by email no later than two weeks after the end of finals during the spring semester**. Copies of the form will be provided to the student, advisor, and Department Chair.

2.23 Candidacy Mode

Students in the MS Thesis and PhD programs may enter candidacy mode when they have completed the steps outlined in the Graduate School's Candidacy Policies and Procedures. After approval, students may register for research credits at the research mode reduced tuition rate. Requirements and Petition to Enter Candidacy form must be submitted by the deadline listed on the Graduate School's website. Doctoral students must apply for candidacy prior to scheduling the final oral defense of their dissertation.

2.24 Professionalism

Graduate students are expected to be on time and professional for all program-related events. This includes verbal, written, and electronic communications, attending classes, while using university spaces, teaching in the classroom, performing research in the laboratory, attending conferences, working during internships, and participating in community outreach events. Graduate students represent the department, college, and university in these situations and are expected to adhere to the employee code of conduct.

2.25 Departmental and University Events

All graduate students are expected to attend KIP seminars, guest seminars, and all other departmental events. If a student is unable to attend, they must contact the graduate program director prior to the event to explain why they are unable to attend. Students are also encouraged to attend all fellow students' degree proposals and defenses.

Students may also be asked to attend and/or present at other meetings and events on campus, including but not limited to those hosted by the Graduate Student Government, College of Science and Arts, and Health Research Institute. Involvement in these events will be determined by the student's advisor and department chair.

2.26 University Volunteering

All graduate students must follow university policies regarding university-related volunteer work, including but not limited to research laboratories, varsity athletics, clubs, and societies' events. Students should have permission from their advisor, department chair, or graduate program director to ensure that their volunteer work does not interfere with their degree progress or ability to complete any assistantship duties.

2.27 Community Outreach

Graduate students are encouraged to participate in community outreach events related to their field(s) of study. These events may include tours of the department's research laboratories, local K-12 school programs, student/parent preview day, and community events. The department will communicate information about upcoming outreach events and ways to get involved. Involvement in these events will be determined by the student's academic advisor and department chair.

3 Advisors

3.1 Coursework MS Advisor

The graduate program director will serve as the academic advisor to students in the MS Coursework Program.

3.2 MS Thesis and PhD Research Advisors

3.2.1 Selecting an Advisor

A member of the KIP graduate program faculty will serve as the research and academic advisor for students in the MS Thesis and PhD programs. The research advisor will supervise the students' research, chair their advisory committee, and advise on course selection. For students with co-advisors, the primary advisor must hold a regular or affiliated appointment in the Department of Kinesiology and Integrative Physiology and will chair their committee.

The selection of who will serve as the advisor is the student's decision. Graduate students should seek a faculty member whose research interests match their own. Additionally, a good student-faculty match of personalities is important. Students must choose a research advisor (or co-advisors) to be enrolled in the MS Thesis program no later than the second semester by completing the Advisor Recommendation Form. A list of KIP graduate program faculty can be found on the KIP department website.

3.2.2 Advisor Recommendation Form and Individual Development Plan

All new MS Thesis and PhD students must complete the Advisor Recommendation and Individual Development Plan forms. The advisor and student should meet and discuss workload expectations, communication preferences, and a mentoring plan prior to completing these forms.

Annually, students and advisors should work together to update the Individual Development Plan (IDP) and complete the form. The IDP form is designed to help the student and advisor communicate goals and expectations of each party.

3.2.3 Changing Advisors

Before initiating the process to change graduate advisors, consider all the options listed on the Graduate School's website for how to address difficulties in the student-advisor relationship.

To change graduate advisors, a student must follow the steps listed below.

1. Meet with the graduate program director to initiate the process to change advisors. If meeting with the graduate program director is not feasible or appropriate, meet with the department chair.
2. Discuss the following with the graduate program director (or department chair) and, if appropriate, the current advisor:

a. Whether additional resources within or outside the department (such as the Ombuds Office) could help resolve the situation.
b. The impact of the change of advisor on the student's degree completion timeline. Coursework, qualifying exam(s), and the research proposal exam are all factors that could be impacted by a change in advisor.
c. Current and future funding.
d. Whether the research the student has already conducted will be incorporated into the dissertation, thesis, or report, and if so, how.
e. Impact on immigration status. Consult International Programs and Services (IPS), if necessary.

3. Record the agreement from the discussions in writing, including indications of agreement from all affected faculty advisors. The graduate program director will ensure that copies of this written agreement are provided to the student and all affected faculty advisors.
4. File an updated Advisor Recommendation Form for approval by the Graduate School.
5. If the student and the graduate program director are unable to reach an agreement on the advisor change, contact the Associate Dean of the Graduate School to determine additional steps to resolve the situation.

If a situation arises in which the relationship between the student and the research advisor is terminated and the student has not yet identified a new advisor, the graduate program director or associate department chair may serve as a temporary advisor for one semester. At the end of that semester, the student must identify a new research advisor, switch to the MS Coursework option, or leave the program.

3.3 Advisory Committees (MS Thesis and PhD)

The purpose of the advisory committee is to provide advice and consultation at all stages of producing the thesis or dissertation, particularly in the development of the proposal. The committee should be formed within the first year of study.

3.3.1 *Selecting a committee*

Students work with their advisor(s) to select members of their advisory committee. For both MS Thesis and PhD committees, at least one member must be from outside of the Department of Kinesiology and Integrative Physiology. Affiliated and Adjunct KIP faculty may serve as external committee members if they are not also serving as co-advisors.

You must select your committee prior to proposing your thesis or dissertation using the Committee Recommendation form. PhD students must select their committee by the end of their second term post-Masters.

MS Thesis committees must include at least three (3) members of the graduate faculty, including the research advisor.

The MS Thesis advisory committee will consist of:

- research advisor/committee chair

- one graduate faculty member within the department
- at least one graduate faculty member from outside the department

PhD committees must consist of at least four (4) members of the graduate faculty, including the research advisor. It is strongly recommended that at least one of the advisory committee members have advanced training in biostatistics and serve as the statistical expert on the project.

The PhD advisory committee will consist of:

- research advisor/committee chair
- at least one graduate faculty member from the KIP department
- at least one graduate faculty member outside the department.

3.3.2 Changing a committee

Changes to a student's advisory committee should be made in consultation with the primary research advisor and are made using the Committee Recommendation form.

4 MS Programs

4.1 Overview and General Timelines

The Master of Science in Kinesiology at Michigan Tech provides an excellent education paired with advanced research opportunities in health and human movement. Our program offers both a coursework option and a thesis option. The coursework option includes a more directed coursework plan with an extended internship experience in an applied field, including but not limited to cardiac rehabilitation, strength and conditioning, or fitness training/management. The thesis option includes coursework and research in exercise and integrative physiology, biomechanics, and motor control.

The MS program in KIP requires a minimum of 30 credit hours. All MS students will take classes in the core KIP areas. Students in the MS Thesis will also enroll in research credits. Students may take up to a maximum of 12 credits at the 4000 level of pre-approved courses, and in special circumstances, the 3000 level with permission from the graduate program director.

Students in the MS Coursework program will be able to complete their masters-level coursework in two calendar years (4 semesters). Students in the MS Thesis program should expect to complete the program in 4-5 semesters.

Current Michigan Tech students who enroll in the MS program in KIP could accelerate completion of their coursework requirements by allowing certain undergraduate credits to double-count toward their MS degree. The Accelerated option is available for both the MS Coursework and the MS Thesis programs.

4.2 MS Options

There are two options through the MS degree program:

- **Coursework Option:** The coursework option is designed for students who are interested in a career in a health or exercise-related field. Students in this option will work with the graduate program director to identify a selection of classes best suited to their personal career goals.
- **Thesis Option:** The thesis option is designed for students who plan to pursue a PhD or who are interested in a research-based career in industry or government. It may also be beneficial for those wishing to potentially teach or do research in a clinical program.

4.3 MS Coursework Requirements

4.3.1 Course Requirements

Students in the coursework option must complete the following requirements:

Table 1. MS Coursework Option Requirements

Kinesiology Core (6 credits)	Statistics (3 credits)
At least 2* of the following: • KIP 5000 Advanced Exercise Physiology • KIP 5100 Advanced Biomechanics • KIP 5300 Advanced Motor Learning & Control	**At least 1* of the following:** • MA 4710: Regression Analysis • MA 4720: Design and Analysis of Experiments • MA 5701: Statistical Methods • PSY 5210: Advanced Statistical Analysis & Design I • PSY 5220: Advanced Statistical Analysis & Design II
Graduate Seminar (2 credits)	**Graduate Internship (4 credits)**
•KIP 5700 Graduate Seminar (1credit x 2 semesters)	•KIP 5900 Graduate Kinesiology Internship
Elective Courses (at least 15 credit hours)	
Electives may be selected from other classes in the KIP course catalog, or other departments on campus, with approval by the Graduate Program Director.	

*Additional core courses can be counted towards the elective courses

4.3.2 Internship

Students will complete a 4-credit graduate internship. It is important to plan and discuss possible internship opportunities and logistics with the graduate program director. It generally takes at least a semester to complete all the necessary paperwork prior to starting an internship. Internships are generally performed after the majority of coursework is completed, unless extenuating circumstances require it to be completed earlier in the program. Students enrolled in the MS Thesis may also complete an internship as an elective.

4.4 MS Thesis Requirements

4.4.1 Course Requirements

Students in the MS Thesis option must complete the following requirements:

Table 2. MS Thesis Requirements

Kinesiology Core (6 credits)	Statistics (3 credits)
At least 2* of the following: • KIP 5000 Advanced Exercise Physiology • KIP 5100 Advanced Biomechanics • KIP 5300 Advanced Motor Learning & Control	**At least 1 of the following:** • MA 4710: Regression Analysis • MA 4720: Design and Analysis of Experiments • MA 5701: Statistical Methods • PSY 5210: Advanced Statistical Analysis & Design I • PSY 5220: Advanced Statistical Analysis & Design II
Graduate Seminar (2 credits)	**Graduate Research (at least 7 credits)**
•KIP 5700 Graduate Seminar (1credit x 2 semesters)	•KIP 5999 Graduate Research
Elective Courses (at least 12 credit hours)	
Electives may be selected from other classes in the KIP course catalog, or other departments on campus, with approval by the Graduate Program Director.	

*Additional core courses can be counted towards the elective courses

4.4.2 Thesis

All MS Thesis students are required to submit a thesis. It should demonstrate the student's capacity to carry out independent research and provide them with the opportunity to contribute to science in a kinesiology-related discipline. While working on their thesis proposal and/or collecting data, a student can enroll in KIP 5900: Graduate Research. Thesis Research credits taken beyond the seven (7) required **may *not* be counted toward future PhD credit requirements** unless prior permission is obtained from both the research advisor and the Graduate Program Director.

4.4.2.1 Thesis Proposal

The thesis proposal is comprised of two parts, a written document and an oral presentation of the proposal. The preparation and presentation of the research proposal is intended to give students experience in developing original ideas and presenting them to the scientific community.

Proposal Document: The specific content and length of the written thesis proposal will be determined by the advisory committee. The written thesis proposal typically contains a review of the literature, aims/hypotheses, methods, and a timeline for your completion of the project with tasks and deadlines. The student is not required to collect pilot data prior to proposing their thesis project.

After approval by the advisor, the thesis proposal document should be submitted to the committee **no less than two weeks prior to the date of the proposal presentation**.

Proposal Presentation: The proposed research will be publicly presented as an oral presentation (25-30 min). The student is responsible for coordinating with their committee members to schedule the presentation date and location. The proposal presentation is open to Michigan Tech faculty members outside of the committee, students, and members of the public who may wish to attend. The student will work with their advisor and KIP department staff to advertise their proposal meeting to relevant parties at least two weeks in advance of the meeting.

The proposal presentation should include a brief overview, relevance, and potential contribution to the body of knowledge, but focus primarily on the proposed research methods. The presentation should also include a discussion of the intended analyses, expected results, and timeline for completion. Following the presentation, the audience will have an opportunity to ask questions and then will be dismissed for a closed session. The closed session will be limited to the student and the committee. The advisory committee will ask questions based on both the written and oral portions of the thesis proposal. The closed session is typically 60 minutes in length. If the advisory committee determines that the minimum requirements were not met, they may require further work. An internal record of the results of the proposal will be signed by all committee members and forwarded to the graduate program director or graduate program assistant.

4.4.2.2 Thesis Preparation

Procedures for formatting, preparing, and submitting a thesis can be found on the Graduate School website.

The thesis should contain a review of the literature, including problem statement/rationale, hypotheses, methods, results from data and statistical analyses, discussion, conclusion, references, and appendices. Students should work with their advisor to refine the thesis as much as possible in terms of content, grammar, and format prior to submission of the full draft document to the committee. Students should confer with their advisor to ensure adequate time for the advisor to review the document. The advisor should sign off on the final draft of the thesis before it is submitted to the committee. The submission to the committee should be the best estimation of a final product.

Students must submit the final draft of their thesis to their committee and the Graduate School (via Canvas) no less than two weeks prior to the planned date of the Thesis Oral Presentation and Defense. Students must complete the required items in the review before their document can be accepted for their degree requirements.

4.4.2.3 Scheduling the Oral Defense of the Thesis

The student is responsible for coordinating with their committee members to schedule the presentation date and location. It is best to schedule the defense a minimum of one month in advance to ensure the availability of all committee members. **Two weeks prior to the presentation, students must submit a scheduling request for their defense on their Degree Progress Checklist. If scheduling the request and the final thesis draft are not submitted to the Graduate School at least two weeks prior to the defense, the defense will be cancelled, and the student will need to begin the scheduling process again.** The student should consult the Graduate School's website to determine the deadlines for scheduling a defense, holding a defense, and submitting a final document for the desired graduation semester. It is also the student's responsibility to book a room at the appropriate time, create a Zoom meeting room (as needed), and reserve any necessary technology. The student will work with their advisor and KIP department staff to advertise their defense presentation to relevant parties at least two weeks in advance of the meeting.

4.4.2.4 Oral Thesis Defense Format

Students are required to publicly defend their thesis. The defense presentation is open to Michigan Tech faculty members outside of the committee, students, and members of the public who may wish to attend.

The research advisor will serve as the chair of the presentation and defense and should discuss the procedure with the student. In general, the thesis presentation should present the problem, design, method, interpretation, and contribution of the thesis to knowledge in the general topic area. The public presentation should last no longer than 45 minutes and should be accessible to an audience of educated non-experts. Following the presentation, the audience will have an opportunity to ask questions and then will be dismissed for a closed session. The closed session

is typically 60-120 minutes and will be limited to the student and the committee. The committee will ask questions and review the written and oral portions of the thesis.

The committee reports the results of the final oral exam by completing the Report on final oral examination form. If the student does not successfully complete the oral presentation and defense in two attempts, the graduate program director will request that the dean of the Graduate School dismiss the student for lack of progress.

4.4.2.5 Thesis Submission

Any corrections to the written thesis that were requested by the advisory committee must be completed before the thesis can be submitted. After all technical and formatting corrections are complete, the student will submit their thesis to Digital Commons and ProQuest by the deadline for the desired completion term. The Graduate School will request a review of the thesis by the advisor on Digital Commons. Only the advisor must provide the final thesis.

4.5 Accelerated MS Option

Current Michigan Tech undergraduate students may double-count up to 9 credits of 4000-level undergraduate courses towards the 30-credit requirement for their MS degree. Students in the Accelerated MS must complete the course requirements listed for either the coursework or thesis in Sections 4.3 and 4.4, respectively. Students interested in the accelerated option should work with the undergraduate advisor and graduate program director to develop a personalized course plan during their Junior Year. Due to the 4-semester sequence of classes, students may need to take 3-6 credits of graduate coursework during their senior year to ensure their ability to complete the program in only one additional academic year. These classes can be taken under Senior Rule and would be in addition to the 9 credits of double-counted undergraduate coursework.

The accelerated option does not guarantee a student will complete their MS degree in one academic year.

4.5.1 MS Eligible Course for Double Counting

Tables 3 and 4 summarize courses currently approved for double-counting for the Accelerated MS option. Additional courses may be included upon approval of the Departmental Graduate Program Director.

Table 3: Approved KIP Courses for Double Counting

Course No.	Course Title	Credits
KIP 4000	Exercise Physiology	3
KIP 4120	Molecular Exercise Physiology	3
KIP 4200	Biomechanics of Human Movement	3
KIP 4250	Ergonomics	3

KIP 4300	Motor Learning and Control	3
KIP 4400	Strength and Conditioning	3
KIP 4600	Sports and Fitness Promotions	3
KIP 4610	Legal Issues	3
KIP 4620	Sports Media	3
KIP 4630	Financial Aspects of Sports	3
KIP 4700	EKG Interpretation	3
KIP 4720	Exercise Pharmacology	3
KIP 4740	Epidemiology	3
KIP 4800	Special Topics in Kinesiology	3

Table 4: Approved Non-KIP Courses for Double Counting

Course No.	Course Title	Credits
BL 4044	Pathophysiology	3
BL 4020	Biochemistry II	3
BL 4030	Molecular Biology	3
BL 4380	Cardiopulmonary Physiology	3
BL 4640	Clinical Immunology and Serology	3
HF 4015	Cognitive Task Analysis	3
HF 4420	Human Factors in Healthcare	3
HF 4880	Usability Assessment	3
BE 4200	Cellular and Molecular Biology II	3
BE 4230	Stem Cell and Tissue Engineering	3
BE 4250	Biomedical Optics	3
BE 4410	Medical Imaging	3
BE 4510	Cardiovascular Engineering	3
BE 4530	3D Bioprinting	3
BE 4650	Neural Basis of Rehabilitation Engineering	3
BE 4655	Neural Prosthetic Systems	3
BE 4755	Medical Devices	3
BE 4850	Tissue Mechanics	3
PSY 4110	Learning and Memory	3
PSY 4160	Sensation and Perception	3
PSY 4870	Human Centered Design	3
MA 4710	Regression Analysis	3
MA 4720	Design and Analysis of Experiments	3

Note: Other courses may be approved on a case-by-case basis.

4.6 Changing between MS Coursework and MS Thesis

Students may change from the coursework to the thesis option with no loss of credits towards their MS degree. Students changing to the thesis option must identify a research advisor willing

to be their research advisor, complete the Advisor Recommendation and Individual Development Plan (IDP) forms, and follow all additional requirements for completing a thesis outlined in this Section 4.4.

4.7 Forms and Deadlines

It is the student's responsibility to meet all paperwork deadlines to ensure the timely completion of their degree. Detailed degree completion timelines for the MS degree (coursework/thesis) are available on the Graduate School website. The Degree Progress Checklist also provides an individualized, detailed checklist of required items and a list of items that are complete or pending. Table 5 contains typical due dates and common forms associated with key milestones in the MS Program.

Note: Starting in fall 2025, the Degree Schedule form has been replaced with the online degree auditing system Degree Works.

Table 5: MS Program Forms and approximate deadlines

Approximate Deadline	Form
First semester	Advisor Recommendation (to name advisor(s)) and IDP Forms (Thesis only)
Second or third semester	Committee Recommendation Form (to name advisory committee)
Annually	Complete annual review with advisor(s) & revisit IDP
Semester of graduation	Graduation Application
Two weeks before defense	Degree Progress Checklist and submit thesis to Canvas
Day of defense	Report on Final Oral Exam
After completing revisions	Submit thesis to Digital Commons and ProQuest
Final week of final semester	Exit Survey

5 Doctoral Program in Kinesiology & Integrative Physiology (PhD)

5.1 Overview and General Timeline

The Doctorate of Kinesiology & Integrative Physiology is designed for students who wish to pursue careers in academia, research, or industry in the areas of integrative and exercise physiology, human biomechanics, and motor learning. Students are not eligible for the PhD program without a Masters in a related field, as agreed upon by the prospective research advisor and the department graduate program director.

Most students complete their PhD in Linesiology & Integrative Physiology within 3.5-5 years. The Graduate School has a general timeline of when key milestones towards the PhD should be completed. The program requires 30 credit hours as outlined in Table 6. If the students have already taken the core courses, these can be electives with other courses and research credits, as seen fit by the advisor, with approval of the graduate program director.

Table 6: PhD Requirements

Required KIP courses (9 credits)	Statistics Course (3 credits)
• KIP 5500 Systems Physiology • KIP 5000 Advanced Exercise Physiology • KIP 5100 Advanced Biomechanics **OR** • KIP 5510 Molecular Physiology	**At least 1 of the following:** • MA 4710: Regression Analysis • MA 4720: Design and Analysis of Experiments • MA 5701: Statistical Methods • PSY 5210: Advanced Statistical Analysis & Design I • PSY 5220: Advanced Statistical Analysis & Design II
Graduate Seminar (1 credit)	**Research Credits or Electives (at least 17 Credits)**
• KIP 6100: Doctoral Graduate Seminar	• Electives or research credits at approval of advisor and Graduate Program Director.

5.2 Qualifying Exam

The purpose of this exam is to ensure that each student has the necessary knowledge to conduct research in their area of concentration. The qualifying exam will consist of a written and oral exam. The research advisor will be responsible for soliciting the advisory committee members for content and assessment. Graduate students typically take the qualifying exam during their second year of doctoral study (following completion of most of the coursework).

The qualifying examination should be administered prior to the end of the fourth academic-year semester in residence at Michigan Tech. It must be given no later than two semesters after completing their coursework. After students pass the written portion of the exam, they will proceed to the oral portion of the exam.

Results of the exam are reported to and recorded by the KIP graduate program assistant. There is no separate form for reporting the results.

Satisfactory performance on the qualifying examination is required for students to maintain good progress toward completion of their degree. Students who do not successfully pass their qualifying exam on the first attempt (both written and oral portions) will be allowed one more opportunity to do so. If a student does not successfully complete the qualifying exam in two attempts, the graduate program director will request that the dean of the Graduate School dismiss the student for lack of progress.

5.3 Doctoral Dissertation

All PhD students are required to submit a Doctoral Dissertation. It should demonstrate the student's capacity to carry out independent research and provide them with the opportunity to contribute to knowledge in the field. Students working on their dissertation proposal and/or collecting pilot data in preparation for their dissertation can enroll in KIP 6999.

5.3.1 Dissertation Proposal

Students must complete all their coursework and receive final approval on their qualifying exam before they can propose their dissertation. The proposal should be completed within six months of completing the qualifying exam and prior to starting most of their data collection. The dissertation proposal is comprised of two parts, a written document and an oral presentation of the proposal.

Proposal Document: The specific content and length of the written dissertation proposal will be determined by the advisory committee. The written dissertation proposal typically contains a review of the literature, aims/hypotheses, methods, and pilot data for the proposed studies. It is expected that at least one of the projects within the proposal will be designed by the student and include an IRB/IACUC submission and approval. The importance of having completed one or more studies prior to proposing should be determined in consultation with the advisor and committee. Collecting data prior to the proposal is neither explicitly required nor discouraged.

After review and approval by the advisor, the dissertation proposal document should be submitted to the committee no less than two weeks prior to the date of the proposal presentation.

Proposal Presentation: The proposed research will also be publicly presented as an oral presentation (30-35 min). The presentation should describe the original research concept with clear objectives, documentation from the literature, defined methods, and anticipated results and/or pilot/preliminary data. The student is responsible for coordinating with their committee members to schedule the presentation date and location. The proposal presentation is open to Michigan Tech faculty members outside of the committee, students, and members of the public who may wish to attend. The student will work with their advisor and KIP department staff to advertise their proposal meeting to relevant parties at least two weeks in advance of the meeting.

Following the presentation, the audience will have an opportunity to ask questions and then will be dismissed for a closed session. The closed session will be limited to the student and the committee. The advisory committee will ask questions based on both the written and oral portions of the dissertation proposal. The closed session is typically 60-90 minutes in length.

If the advisory committee determines that the minimum requirements were not met, they may require further work. An internal record of the results of the proposal will be signed by all committee members and forwarded to the graduate program director or designated administrator. The Department must certify successful completion of the proposal in Banner before the student can petition to enter Research Only Mode (i.e., PhD candidacy).

5.3.2 Dissertation Preparation

Procedures for formatting, preparing, and submitting a Doctoral Dissertation can be found on the Graduate School website. The dissertation will be written and prepared under the supervision of the research advisor and the advisory committee according to the requirements of the Graduate School. It is expected that at least one of the projects within the final written

dissertation will have been designed and led by the student and will include an IRB/IACUC submission and approval.

The dissertation should contain a review of the literature, including problem statement/rationale, hypotheses, methods, results from data and statistical analyses, discussion, conclusion, references, and appendices. Students should work with their advisor to refine the dissertation as much as possible in terms of content, grammar, and format prior to submission of the full draft document to the committee. Students should confer with their advisor to ensure adequate time for the advisor to review the document. The advisor should sign off on the final draft of the dissertation before it is submitted to the committee. The submission to the committee should be the best estimation of a final product.

Students must submit the final draft to their committee and to the Graduate School (via Canvas) no less than two weeks prior to the planned date of the Dissertation Oral Presentation and Defense.

5.3.3 Oral Presentations & Defense of the Dissertation

Students are required to present an oral defense of their final dissertation to their committee. The defense presentation is open to Michigan Tech faculty members outside of the committee, students, and members of the public who may wish to attend.

Two weeks prior to the presentation, students must submit a scheduling request for their defense on their Degree Progress Checklist. If the scheduling request and final dissertation draft are not submitted to the Graduate School at least two weeks prior to the defense, the defense will be cancelled, and the student will need to begin the scheduling process again.

The student is responsible for coordinating with their committee members to schedule the dissertation presentation and defense date and location. To schedule your defense, you must submit a scheduling request on your Graduate Degree Progress Checklist. Consult the Graduate School's website to determine the deadlines for scheduling a defense, holding a defense, and submitting a final document for the desired graduation semester. It is also the student's responsibility to book a room at the appropriate time, create a Zoom meeting room (as needed), and reserve any necessary technology. It is best to schedule the defense a minimum of one month in advance to ensure the availability of all committee members.

The research advisor will serve as the chair of the presentation and defense and should discuss the procedure with the student. In general, the dissertation presentation and defense should present the problem, design, method, interpretation, and contribution of the dissertation to knowledge in the general topic area. The public presentation should last no longer than 45 minutes and should be accessible to an audience of educated non-experts. Following the presentation, the audience will have an opportunity to ask questions and then will be dismissed for a closed session. The closed session is typically 60-120 minutes and will be limited to the student and the committee. The committee will ask questions and review the written and oral portions of the dissertation.

The committee reports the results of the final oral presentation and defense by completing the Report on Final Oral Examination form. If a student does not successfully complete the oral presentation and defense in two (2) attempts, the graduate program director will request that the dean of the Graduate School dismiss the student for lack of progress.

5.3.4 Dissertation Submission

Any corrections to the written dissertation that are requested by the advisory committee must be made before the final version is uploaded to Digital Commons. After all technical and formatting corrections are complete, the student will submit their dissertation to Digital Commons and ProQuest by the deadline for the desired completion term. The Graduate School will request a review of the dissertation by the advisor on Digital Commons.

5.4 Forms and Deadlines

It is the student's responsibility to meet all paperwork deadlines to ensure the timely completion of their degree. Detailed degree completion timelines for the dissertation are available on the Graduate School Website. Table 7 contains typical due dates and common forms associated with key milestones.

Table 7: PhD Program Forms and approximate deadlines

Approximate Deadline	Form
First semester	Advisor Recommendation and IDP Forms (to name advisor)
By end of the 4th semester	Committee Recommendation Form (to name committee)
~ 1 term to 1 year after completing course work	Complete Qualifying Exams (advisor email to Graduate Program Director and Department Coordinator)
Annually	Complete annual review with advisor(s) & revisit IDP
< 6 months after completing Qualifying Exams	Complete Proposal of Dissertation
Term before semester desired to be in candidacy mode (ie, semester after completing Qualifying exams and proposal	Petition to enter Candidacy Mode
Semester of graduation	Graduation Application
Two weeks before your defense	Degree Progress Checklist and submit dissertation to Canvas
Day of defense	Report on Final Oral Exam (all committee members approval required)
After completing revisions	Submit dissertation to Digital Commons and ProQuest
Final week of final semester	Exit Survey