

NATURAL SCIENCES ACADEMIC REGULATIONS AND DEGREE REQUIREMENTS

Minimum Academic Regulations and Degree Requirements

The following requirements pertain specifically to students pursuing the Natural Sciences Ph.D. program. However, Natural Sciences Ph.D. students are subject to, and also should refer to, those regulations common to all graduate students and the dissertation requirements common to all doctoral students included in the General Graduate Academic Regulations and Information (<http://catalog.umkc.edu/general-graduate-academic-regulations-information/>) section of this catalog. Students should also consult the specific requirements for the discipline(s) to which they have been admitted. Where discipline requirements are more stringent than the general requirements, the discipline requirements take precedence.

Change of Discipline by Admitted Students

Once a student is admitted to Natural Sciences Ph.D. study, any change of disciplines requires a review process by the discipline(s), similar to the initial admission review. Forms to initiate this review may be obtained from the School of Graduate Studies or downloaded from their website.

Interim Advisor

Once a Natural Sciences Ph.D. student is admitted to the School of Graduate Studies, the Coordinator(s) of the chosen discipline(s) will serve as the student's interim advisor(s) unless/until a suitable doctoral faculty member is identified. Students who have had minimal prior graduate study will be encouraged to explore research opportunities before choosing fields of endeavor.

As the student progresses and develops focused research interests, the interim advisor(s) are expected to assist in identifying potential research advisors among doctoral-faculty members in appropriate research area(s) with whom the student can discuss research plans. The interim advisor(s) also provide academic guidance until the student selects a research advisor, has satisfied all qualifying requirements, and is classified as fully admitted. The interim advisor in the student's primary discipline reports on the student's progress to the dean of the School of Graduate Studies. If another faculty member has not been identified as the research advisor by the time the student is fully admitted and ready to formulate the plan of study, the interim advisor in the primary discipline may continue to serve as the student's research advisor.

Research Advisor and Supervisory Committee

The student's committee chair/primary advisor must be a regular doctoral faculty member from the student's primary discipline and has the final authority over the student's program.

The primary advisor assists the student in identifying other members of the doctoral faculty to form a supervisory committee appropriate to the student's research goals. The supervisory committee shall consist of at least four members. Aside from the primary advisor, the remaining members of each committee can hold doctoral, graduate or adjunct graduate faculty status. Final approval of the composition of each supervisory committee shall be obtained from the Dean of the School of Graduate Studies. Where graduate or adjunct graduate faculty are included, the advisor shall provide a strong justification for their inclusion.

An outside reader may also be included on the supervisory committee as a non-voting member.

Annual Evaluation of Progress

Natural Sciences Ph.D. students must submit a summary of their accomplishments over the previous year and a projection of the progress they intend to make during the next academic year. This annual evaluation form is distributed to students in the fall. The discipline advisor(s) will review the student's report and provide feedback. Failure to meet this requirement may result in a hold being placed on the student's enrollment.

Plan of Study

Natural Sciences Plan of Study Guidelines

- The plan of study must include coursework from all the student's disciplines and must satisfy all of the applicable discipline-specific core requirements.
- The Natural Sciences Ph.D. requires at least 30 coursework hours and at least 12 dissertation hours. Specific disciplines may have more stringent requirements.
- Didactic coursework on the plan of study will include a minimum of nine credit hours outside of the primary discipline, decided in consultation between the student and primary advisor.
- All plans of study must include a minimum of 12 hours of dissertation research (5696-5699) credit.
- At least two-thirds of the total courses included on the plan of study must be numbered 5500 or above if taken at UMKC, or, if taken from an institution with a course-numbering system that differs from UMKC's, they must be courses intended primarily for graduate students.
- UMKC courses at the 100 and 200 levels, and courses with equivalent lower-division numbers taken at another institution, are not available for graduate credit and may not be applied toward the hours required for the degree nor included in the discipline percentages.
- No more than 50 percent of the coursework for the degree can be transferred from other institutions.

- Students' needs will be examined on a case-by-case basis by their supervisory committees, and appropriate language or related research skill requirements will be incorporated into each student's plan of study.
- The plan of study will include a brief description of the course focus for any independent study courses listed.
- The plan of study will specify which courses are being used to satisfy the residency requirement – 18 credit hours completed within 24 months at UMKC.
- The plan of study will outline the comprehensive examination expectations.
- If modifications to discipline-specific requirements are made after the student is admitted, the student has the option of proceeding under either the requirements in place at the time the student entered the Ph.D. program or the current requirements.

Plan of Study Approval Process

The student should work with the primary advisor to complete the Plan of Study, which requires approvals from the student, advisor(s), and discipline Coordinator(s). The completed document is then sent to the School of Graduate Studies for approval before the end of the first year in the program (example: a student admitted in Fall 2023 has the Plan of Study due by the end of Fall 2024).

The School of Graduate Studies will accept plan of study proposals for review and final approval only if:

- The Ph.D. coursework falls within the guidelines outlined above.
- The student will enroll at UMKC for dissertation credit under the supervision of a UMKC doctoral faculty member.
- The plan includes written assurance from the appropriate academic officers that:
 - a. adequate faculty, laboratories, library support and all other necessary resources are presently available at UMKC to support the proposed Ph.D. plan of study, and
 - b. the courses included in the plan are either presently available at UMKC or can be taken by the student as a visiting student in a time period less than that required to satisfy the residency requirements on the other campus.

The School of Graduate Studies will either approve of the plan as presented or will return the plan to the student with recommendations for modification. Once the proposed plan of study and supervisory committee are approved by the Natural Sciences Ph.D. Program Director, approval will be sent to inform the student and committee. The approved plan will also be filed with the Registrar. Any further modifications of the plan of study must be made in consultation with the student's supervisory committee and approved by the School of Graduate Studies.

Supervisory Committee Assignment

- The supervisory committee shall consist of at least four members. The primary advisor must hold doctoral faculty status in the primary discipline, and the remaining members can hold doctoral, graduate, or adjunct graduate faculty status.
- The Committee Assignment form should be submitted by the student as soon as the committee members have been chosen, in consultation with the primary advisor.
- The supervisory committee must be formed and approved prior to the application to take Comprehensive Exams.

Residency Requirement

Natural Sciences Ph.D. students must satisfy the doctoral residency requirement by satisfactory completion of at least 18 credits in no more than 24 consecutive months. When satisfying the residency requirement, all Ph.D. students are subject to the following restrictions:

1. The doctoral residency requirement must be satisfied no later than the end of the semester in which the student completes his or her comprehensive examinations.
2. Students must achieve a cumulative graduate grade-point average of at least 3.0 in all courses counted toward satisfying the residency requirement.

Transfer Credit

Ph.D. plans of study are tailored to the needs of individual students based on their prior academic work as evidenced by transcripts and other credentials. An approved plan of study may recognize class work from other institutions as determined by the student's supervising committee, either as qualifying courses or as relevant to a program of study.

Graduate credit earned before entering a UMKC doctoral program may be applied to the doctoral degree if it is of acceptable quality and appropriate to the student's program of study as determined by the student's academic unit and supervisory committee. The total amount of graduate credit earned from all other academic institutions before admission to a UMKC doctoral program and applied to the doctoral degree cannot exceed half the number of credit hours, exclusive of dissertation research credits, required for the degree. For graduate coursework completed at UMKC prior to admission to a doctoral program, any number of credit hours required for the doctoral degree, exclusive of dissertation research, can be satisfied using previous UMKC graduate credit if approved by the student's academic unit and supervisory committee. All graduate coursework, completed prior to admission and not used to earn the master's degree or educational-specialist degree, must be no more than seven years old at the time the doctoral program of study is approved.

After admission to the doctoral program, if a student wishes to take graduate coursework at another institution and apply it to their doctoral program, the student must receive written approval from the doctoral program's graduate officer and from the student's supervisory committee chair, as

appropriate, before the coursework is taken. Such coursework is not considered as transfer credit. Upon completion of the coursework, the student must have the official transcript forwarded to the UMKC registrar.

Comprehensive Examination

To advance to degree candidacy, Natural Sciences Ph.D. students are required to pass a Comprehensive Examination that integrates components of each discipline to which they have been admitted. The doctoral Comprehensive Examinations must be completed at least seven months before the date of graduation.

The following requirements must have been met before students can take the Comprehensive Examination(s):

1. Successful completion of all qualifying requirements and full admission to the School of Graduate Studies.
2. Appointment of a research advisor and supervisory committee.
3. Filing and approval of the Ph.D. plan of study and completion of essentially all coursework or other study required for the degree.

The student must be enrolled when taking the Comprehensive Examination. Comprehensive Examinations are not administered when UMKC is not officially in session. The Comprehensive Examination may be written, oral or both. A student, through his or her advisor, applies to the Director of the Ph.D. program for an examining committee. This committee consists of members of the student's supervisory committee and others approved by the Director of the Ph.D. program. The examination is arranged and conducted by the examining committee. Upon completion of the examination, the student's research advisor sends a report of the results, carrying the signatures of all members of the examining committee, to the Director of the Ph.D. program, who then informs the student and the registrar. A student is considered to have passed the Comprehensive Examination if no more than one committee member votes for failure of the student. If failure is reported, the examining committee will either recommend termination as a Ph.D. student or suggest additional work or other remedial measures. Furthermore, a student who has failed may not take a second examination for at least 12 weeks. Failure of the second Comprehensive Examination shall automatically preclude candidacy at this institution.

Program Time Constraints

The doctoral student must take and pass the doctoral Comprehensive Examination and advance to candidacy within five years from the beginning of doctoral coursework (within four years if entering with a master's degree in the same or closely related field). After the establishment of degree candidacy, a maximum of five years will be allowed for completion of degree requirements. Failure to complete the work within the periods specified will necessitate re-evaluation of the entire program and may result in a notice of termination. In compelling circumstances and on the written recommendation of a majority of the student's supervisory committee members, the Director of the Ph.D. program may grant a one-year extension. Some academic units may impose more stringent time requirements.

Dissertation Research Proposal Development and Approval

The student's supervisory committee must approve the research activities associated with a dissertation. These activities must be performed under the direct and continuing supervision of the supervisory committee chair. If the proposed research involves the use of human subjects, animals or radioactive materials, the student and the research advisor must obtain prior written approval of the proposed research by the appropriate Institutional Review Board, the Animal Care and Use Committee or the Radiation Safety Committee.

For the approval process, the Ph.D. candidate must submit a brief dissertation research proposal. The dissertation proposal shall include the following:

- An abstract.
- A statement regarding the general purpose of the research.
- Background information, including a review of the relevant literature, the rationale for the research and a concise statement of the hypotheses to be investigated and/or the research questions to be answered.
- Methods.
- Appropriate protocol or application if human subjects, animals or radioactive materials are to be used in the research.

This proposal must be approved in writing by all members of the student's supervisory committee and filed with the School of Graduate Studies. It is in the best interest of the Ph.D. student to complete the approval process of the dissertation research proposal before significant progress is made on the completion of the dissertation. Any important changes in the research outlined in the proposal must be approved by the supervisory committee.

Dissertation and Completion of Degree

Doctoral Dissertation Requirement

All UMKC Ph.D. degrees require a dissertation as the final component of the program. The doctoral faculty view the dissertation as one of the most important aspects of the student's experience because:

- It is a work of original research or scholarship that makes a contribution to existing knowledge.
- It is an educational experience that demonstrates the candidate's mastery of research methods and tools of the specialized fields.
- It demonstrates the candidate's ability to address a major intellectual problem.

For regulations pertaining to formatting the dissertation and the process for approval, the reader is directed to Doctoral Dissertation Policies (<https://catalog.umkc.edu/general-graduate-academic-regulations-information/doctoral-degree-programs-edd-phd-dma/doctoral-dissertations/>), included under Graduate Academic Regulations (<https://catalog.umkc.edu/general-graduate-academic-regulations-information/>) in this catalog section.

Final Dissertation Examination

Final examinations in defense of the dissertation are open to all members of the doctoral faculty, who may attend as interested observers. The format and procedures of the defense are determined by the supervisory committee and its chair. The date, time and location must be announced and published at least two weeks before each final examination takes place. This examination may be conducted only after the dissertation has been approved by the Dean of the School of Graduate Studies, and may not be administered when UMKC is not officially in session.

The defense of the dissertation is approved when a majority of the supervisory committee recommend approval and sign the Report of the Result of Final Doctoral Examination form. Within 48 hours of the defense, the supervisory committee chair will report the results of the final dissertation examination in writing to the candidate.

Deposit of Approved Dissertation with Libraries

For regulations pertaining to deposit of the approved dissertation with the libraries, please refer to the Graduate Academic Regulations (<https://catalog.umkc.edu/general-graduate-academic-regulations-information/>) in this catalog section.

Natural Sciences Ph.D. Student Appeal Process

Students should submit any petitions for waiver of policy or other academic appeals to their interim advisors or research advisors. The advisors should attach their recommendation and forward the request to the doctoral faculty review groups within the discipline(s).

If the appeal does not require a policy decision, action on the appeal may be handled at the discipline level. If a policy decision is required or if, after action by the discipline, the student wishes a higher level of review of the case, the appeal or petition, complete with documentation of all reviews up to that point, may be forwarded to the Program Director, then to the Dean of the School of Graduate Studies for action or referral.