MASTER OF SCIENCE: STATISTICS

Student Learning Outcomes

Students graduating from this program will:

- Synthesize statistical concepts, assumptions, and theorems, and be able to explain how such theory gives rise to the common techniques of statistical analysis.
- Communicate the results of a statistical analysis to a non-statistician both in writing and verbally, and to explain how these results pertain to the research question at hand.
- Evaluate the statistical technique to apply to a given situation, demonstrate the ability to carry out that technique, either analytically or using statistical software, and demonstrate the ability to assess the appropriateness of the technique that was applied.

Degree Requirements

- At least **30 credit hours** of approved coursework in the program are required.
- In addition to the minimum 30 credit hours of course work, master's degree seeking students are required to attend five graduate seminars/ colloquium talks Graduate Seminars per semester.
- Master's degree candidates are required to submit a **Master Plan of Study Form** prior to the completion of 15 credit hours of course work.
- All general graduate and master's degree academic regulations listed in the UMKC catalog candidates must be satisfied.

Students need to take 18 (of the required 30) credit hours as follows:

Code	Title	Credits
STAT 5501	Statistical Design Of Experiments	3
STAT 5537	Mathematical Statistics I	3
STAT 5547	Mathematical Statistics II	3
STAT 5565	Regression Analysis	3
Choose two of the following		6
STAT 5551	Applied Statistical Analysis	
STAT 5563	Nonparametric Statistics	
STAT 5572	Multivariate Analysis	
STAT 5576	Probability	
STAT 5578	Advanced Mathematical Statistics	

The remaining 12 credit hours can be fulfilled by choosing from the 400 or 5500 level courses labelled STAT or MATH , or other approved designations, subject to the following restrictions:

- At least 18 credit hours (of the 30 minimum total credits) must be at the 5500 level.
- Courses numbered at the 400 level will NOT be credited to the master's degree if they were previously taken from UMKC or are equivalent (content wise) to courses previously taken from any other accredited colleges/universities for the undergraduate degree.
- Courses labelled at the 5500 level that are offered jointly with undergraduate classes will NOT count towards the program if the corresponding undergraduate class or equivalent (content wise) has been taken for the undergraduate degree.
- Independent Reading courses (MATH 490 or MATH 5590 or STAT 5590) are not counted toward the degree unless approved for inclusion in the plan of study of the student prior to taking the course. Normally, more than 6 credit hours of Independent Reading will not be counted toward the master's degree.
- Generally, at most 6 credit hours of **select** courses that are not labelled MATH or STAT can be approved towards the degree. Such courses need to be approved toward the degree prior to taking the class.

Students have two options for completing the degree: **with thesis** or **without thesis**.

For students completing a MS degree with thesis, the following additional requirements apply: Students are required to write a Master's thesis under the supervision of a graduate faculty member, give an oral presentation, and defend it before an examining committee. The examining committee is composed of a supervisor (Chair of the examining committee) and at least two other faculty members. All members of the committee need to be graduate or doctoral faculty in the department. The process of completing the thesis requirement is as follows:

- The student is required to submit a two-page proposal to the supervisory committee by the end of the 1st year.
- The student is required to provide a complete thesis to each of the examining committee members before the oral defense.
- Upon receipt of the recommendations from the examining committee members, the oral defense will be scheduled.

- After a successful oral defense followed by required revisions, the examining committee chair will forward the Master's thesis along with necessary forms to the School of Graduate Studies.

A student pursuing the thesis option can enroll in Research and Thesis credit hours (MATH 5699 or STAT 5699). Such classes will be counted towards the degree only if they are approved for the plan of study of the student prior to taking the class. No more than 6 credit hours combined of approved Research and Thesis and Independent Reading can be counted towards the degree.

Admission requirements

- Applicants need to hold a bachelor's degree from an accredited college or university, with a satisfactory GPA.
- If the applicant's degree is not in Mathematics or Statistics (or equivalent), then the applicant must have taken Calculus I, II, and III and at least three other Mathematics or Statistics classes beyond Calculus III, with satisfactory grades.
- Applicants need to include with their application materials a one page narrative outlining educational goals. Letters of recommendation and GRE scores are optional.
- International applicants need to satisfy the requirements of the International Students Affairs Office (http://www.umkc.edu/isao/), including those on TOEFL or IELTS scores.

Applicants who want to be considered for a GTA (Graduate Teaching Assistant) position need to indicate this in their application, provide answers to the GTA-specific questions, have three letters of recommendation, and have all materials submitted before March 1st (for Fall admission) and October 15th (for Spring admission).