

Welcome to the Masters Program

A lot of the information about the graduate program (including important dates and necessary forms) can be found at the following website:

<https://www.sdstate.edu/mathematics-statistics/current-graduate-students>

To complete your Masters degree, you have three options: write a thesis (which involves original research), a research paper (which is purely expository), or just do coursework (which involves a written final coursework exam). The credit requirements for these are listed in the table below.

Option	Description	Total Credits	Coursework Credits	Other Credits
A	Thesis	30	25	Thesis, 5
B	Research Paper	32	30	Paper, 2
C	All Coursework	35	35	None

Required Courses

The master's programs in mathematics and statistics have several courses that are required. During your first year, you will need to complete at least two of the sequences listed below.

MS MATH: You must take the sequence

MATH 725 Advanced Calculus I/ MATH 741 Measure & Probability sequence

and choose one of the following sequences:

MATH 571 Numerical Analysis I and MATH 771 Numerical Analysis II (starting Fall of even years)

MATH 571 Numerical Analysis I and MATH 772 Numerical Linear Algebra (starting Fall of odd years)

MATH 575 Operations Research I and MATH 775 Operations Research II

MS STAT: You must take the sequences

STAT 784 Statistical Inference I and STAT 785 Statistical Inference II

STAT 786 Regression Analysis I and STAT 787 Regression Analysis II

MS MATH with STAT specialization: You must take the sequences

MATH 725 Advanced Calculus I and MATH 741 Measure & Probability

STAT 784 Statistical Inference I and STAT 785 Statistical Inference II

During the summer after taking these courses, you will sign up for the course below corresponding to your program:

MATH 779 - Advanced Mathematics Synthesis or STAT 779 - Advanced Statistics Synthesis.

At the beginning of this course, you will take comprehensive exams over the sequences listed above. If you pass the exam, then your course is completed. Otherwise, you will spend the summer reviewing the material, and retake the comprehensive exam during finals week for the summer. Completion of this course is required before you can do your final defense.

A Timeline for Masters Students

This is a general guideline, designed as a “one-size-fits-all” (which of course, doesn’t always). Some changes may be necessary depending on your circumstances. Work closely with the Graduate Program Coordinator and/or your major advisor as you plan your program. Make sure you inform them of any changes in your program plan, as a poorly thought through change can have negative consequences such as delaying graduation

First semester: Take three courses (nine credits), including courses from the required sequences.

Second semester: Take three courses (nine credits), finishing your two required sequences.

By the end of this semester, hopefully you will have an idea about what topic you want to study for your research paper/thesis (if you’re doing the A or B option), as well as who you want to work with. You should also fill out your Plan of Study. Make a copy for yourself, your advisor (if you have chosen one), and the Graduate Coordinator, then send the completed form to the Graduate School. Finally, with the help of your thesis/research paper advisor, you should fill out the Committee Approval Request Form.

During the summer after your second semester, take the 779 Synthesis course and pass your comprehensive exams.

Third semester: Take three courses (nine credits)

During this semester, be sure to communicate frequently with your Major/Paper advisor (and the rest of your committee), to let them know how you’re progressing. Check with the Graduate Program Coordinator regarding fourth semester deadlines for things like scheduling or conducting your thesis or paper defense. It’s best to know these dates now so you won’t be surprised by them when they arrive. (They can also be found on the Graduate School’s website.)

Fourth semester: Take enough credits to fulfill the necessary number of credits for your program. (Don’t forget to include thesis/research credits in this.) At the beginning of your final semester, you also need to inform the graduate school of your intent to graduate. When you set your final defense date (with the guidance of your advisory committee), inform the Graduate Program Coordinator and don’t forget to submit the Oral Exam Notification Form to the Graduate School at least ten working days before you defend. As mentioned above, be sure to keep your committee informed of your progress. (Sending them a copy of your paper/thesis once a month is especially helpful. Even if the paper isn’t finished, it is much more beneficial to you and the faculty to have them reading as you go along, as opposed to attaching a forty-page paper to an email two weeks before your defense.) Upon successful completion of your final exam, if you are doing Option A, then your thesis should be submitted to the Graduate School using d2l.

The Final Exam: If you are doing Option A or B, your final exam will typically consist of two hours. In the first hour, you will do an oral presentation on your thesis/research paper. During the second hour, your committee will ask questions regarding your coursework. If you are doing Option C, then you will take a written exam and a two-hour oral exam, both of which will be over all coursework on the Plan of Study.

Graduate Faculty

For a list of Graduate faculty and their research interests, see this page:

<https://www.sdstate.edu/mathematics-statistics/research>

Faculty Member	Email
Ross Abraham	Ross.Abraham@sdstate.edu
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