WASHINGTON STATE UNIVERSITY

Department of Mathematics & Statistics
Graduate Student Handbook

M.S. in Mathematics
M.S. in Statistics

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2 INTRODUCTION

This handbook offers guidance to students working toward advanced degrees in mathematics and statistics at Washington State University. In all of our degree programs we attempt to combine a sound general core of fundamental mathematics and statistics with electives that reflect individual interests, needs, and opportunities. Students can obtain an M.S. or Ph.D. in Mathematics, with optional areas of emphasis in applied mathematics, computational finance, and teaching in mathematics. The department also offers an M.S. in Statistics and a Ph.D. in Statistical Science.

Graduate students should accept much of the responsibility for their own training. This includes planning a meaningful program of study, studying for courses and examinations, and writing a dissertation or completing a project.

It is important to note that some of the regulations and requirements mentioned are from the Graduate School and are university-wide in scope, while others originate in the Department of Mathematics and Statistics and pertain only to mathematics and statistics students. The Graduate School determines the procedures regarding the Master's and Doctoral Final Oral Examinations, the Doctoral Preliminary Examination, total hours required for each degree, and the format for a thesis or dissertation. Specific course requirements and rules governing the Graduate Qualifying Examination and the Doctoral Qualifying Examination originate with the Department.

There are many more resources and important information available at the Graduate School website (gradschool.wsu.edu). On that site, be sure that you consult the page about New and Current Students and the current version of the Graduate School Policies and Procedures Manual. That manual is the definitive source for information on Graduate School regulations and requirements, while this guide is the official source of information concerning departmental regulations and requirements valid on the date of issue. For an up-to-date list and description of Mathematics and Statistics courses offered, consult the University Catalog (catalog.wsu.edu).

Departmental policies pertaining to graduate programs are set by the graduate faculty of the Department of Mathematics and Statistics. The departmental Graduate Studies Committee serves as an intermediary between the graduate students and the graduate faculty. Questions concerning the content of this document and petitions requesting a possible waiver or modification of any rule of departmental origin should be directed to this committee. Students should feel free to seek advice or assistance from any member of the mathematics faculty, and especially from the Chair of the Department, the Associate Chair of the Department, and the members of the Graduate Studies Committee. In addition, students should not hesitate to seek assistance from the Graduate Program Coordinator on administrative matters pertinent to the graduate programs of the Department.

3 MASTER OF SCIENCE IN MATHEMATICS & STATISTICS: POLICIES AND PROCEDURES

The Department of Mathematics & Statistics offers an M.S. degree in Mathematics and an M.S. degree in Statistics, with possible Mathematics options including Applied, Computational Finance, and Teaching. A full-time graduate student typically takes two years to complete the program. Completing the M.S. degree requires four components, including:

Coursework – Each option has specific requirements, but at minimum, a student must complete 26 hours of graded coursework, 4 hours of Math 702 Directed Study to pursue an individual and/or group project, and 1 hour of Math 500 Proseminar, to be taken the week before the student's first fall semester. Additionally, teaching assistants are required to take three semesters of Math 533 Teaching College Mathematics.

Administrative paperwork – To assess progress and accomplishments, students must complete an annual review each spring. The semester before they graduate, all M.S. graduate students are required to submit a *Program of Study* (paper) and then an *Application for Degree* (online in the student's MyWSU portal by the deadlines listed by the Graduate School, normally the seventh week of final semester).

The *Program of Study* includes the signatures of all committee members and the department chair, and indicates that the committee approves the student's coursework to fulfill the requirements for the degree. Adjustments to the program of study and changes to the student's committee can be submitted to the Graduate School when necessary. An M.S. graduate committee must consist of at least three WSU faculty members. At least two (including the chair of the committee) must be graduate faculty in the Department of Mathematics & Statistics. An optional 4th or 5th member may be from outside the University. For more information on forming an M.S. committee, see the Graduate School Policies and Procedures Manual.

The *Application for Degree* cannot be filed until an approved Program of Study is on file with the Graduate School. It is advised that students apply for their degree the semester before intended graduation so the student is notified of requirements to be completed their final semester. Candidates may not schedule a *final examination* until an Application for Degree has been filed.

Final Exam – All Master's degree students must complete a final oral examination that may cover all of the student's coursework including Math 702. The student's advisory committee may conduct the examination when all requirements of the Department and the Graduate School have been satisfied. Scheduling forms are available online at the Graduate School website and must be turned in at least four weeks before the end of the semester of graduation and at least two weeks (10 working days) before the exam date. The format for M.S. examinations varies by discipline and project; students should work with their committee chair to determine the expectations for the exam.

Extracurricular activities – Besides meeting the requirements needed to obtain a degree, students should voluntarily and energetically devote time to additional courses, outside reading of both books and journals, attend colloquia and special lectures by local and visiting speakers, work on assigned problems, and participate actively in seminars and professional meetings. Participating in these activities may be a crucial part of obtaining desirable employment after graduation.

Course Policies and Procedures

Prerequisites – Students pursuing an M.S. in Mathematics are expected to have a background equivalent to that provided by our undergraduate degree in mathematics. Ideally, this would include familiarity with the material covered in Math 401 and 402 (Introduction to Analysis), Math 420 and 421 (Linear Algebra and Algebraic Structures), and some experience with computer programming. Students with a deficient background are expected to make up these deficiencies at the earliest opportunity.

Students considering the M.S. in Statistics should have a major in Mathematics, Statistics, or a field in which statistics is heavily used. Minimum admission requirements for the M.S. in Statistics include three semesters of calculus, Math 220 (Linear Algebra), a course in computer programming, and at least one upper-division course in probability and statistics (e.g. Stat 360, Stat 412, Stat 423).

Transfer Credit – Up to eight hours of transfer credit may be given for suitable coursework done elsewhere in the pure, applied, and computational finance options. Up to six hours may be requested in the mathematics teaching option. Transfer credit is requested by listing the courses on the program of study and attaching the course syllabus; approval of the program of study implies approval of transfer credit. Courses taken toward a completed M.S. degree may NOT be used toward another M.S. degree at WSU. All other graded graduate-level course work (with a grade of B or higher) taken as a graduate student, but not taken toward a completed graduate degree, may be used toward an M.S. degree at WSU. Other general regulations regarding transfer credit can be found in Chapter 6 of the Graduate School Policies and Procedures Manual.

Note: The departmental graduate handbooks are in a transitional period while we continue to update the PhD programs. Please do not hesitate to ask if you have questions about any policies or procedures for your degree.

4 THE M.S. IN MATHEMATICS

Description and Learning Outcomes – This broadly defined program provides flexibility for students to design a course of study according to their interests, particularly in pure mathematics. It can also lay a solid foundation for further doctoral study in Mathematics, working in industry, or for teaching at the high school, community college, or university level as an instructor. This M.S. program is designed to lead the student to the following learning outcomes:

- Problem Solving: Students will be able to identify mathematical and computational methods in order to solve problems.
- Deductive Thinking: Students will be able to read and write logical arguments in order to prove advanced mathematical results.
- Effective Communication: Students will be able to effectively communicate mathematical concepts, problems and their solutions in written and oral form.

Courses – The M.S. in Mathematics requires at least 32 semester hours of approved graduate work. Math 501, Math 500, and four hours of Math 702 are the only required courses for the degree; the remaining 24 hours must be graded coursework selected from the options listed below. At least 18 of these hours must be from the approved list of mathematics and statistics graduate electives below. The remaining 6 hours of graded credit are elective and may be taken in other departments with approval of the advisor through the submission of a program of study. These may include 500-level courses, a maximum of two 400-level courses, and up to one 300-level course (if in another department).

Required courses: (5 credits)	Math 500 Math 702	Proseminar (1 credit) Directed Study (4+ credits)
Core Courses: (3 credits)	Math 501	Real Analysis (3 credits)
Math/Stat Electives (18+ credits)	6 courses	chosen from: Math 502-574, Math 586 Stat 508-577, including Stat 443 and excluding Stat 511. A maximum of 2 Statistics courses can be counted.
Additional Electives (6 credits)	2 courses	Any Department

Math 702 and M.S. Examination – The four required hours of Math 702 involve independent study under the guidance of a faculty member, normally the chair of the student's advisory committee. The results of this study are often summarized in a paper, but this is not mandatory. In addition, students must complete a final oral examination,

covering the content of the student's coursework including Math 702, 401, 402, 420, and 421 (Analysis, Linear Algebra, and Abstract Algebra). The format for the final examination is at the discretion of the student's committee, and it is the student's responsibility to be aware of their requirements. The student's committee will conduct this examination when all other requirements for graduation have been fulfilled.

5 THE M.S. IN MATHEMATICS – APPLIED MATHEMATICS OPTION

Description and Learning Outcomes – This is a two-year professional degree specifically designed to train mathematicians and scientists/engineers with strong mathematics backgrounds in up-to-date applied mathematical, computational and statistical skills. Such training is intended to produce individuals who can confidently undertake interdisciplinary research. The focus will be in preparing individuals to face the mathematical and other research challenges in business and/or industrial sectors. In order to achieve these goals the program requires:

- A broad background in the areas of Numerical Analysis/Optimization, Modeling/Simulation, and Statistical Analysis;
- A concentration in one of the above areas or one that matches the student's interests;
- Development of an individual project;
- A strong computing component.

The M.S. in Mathematics (Applied Option) is designed to meet the following learning outcomes:

- Problem Solving: Students will be able to identify mathematical and computational methods in order to solve problems.
- Deductive Thinking: Students will be able to read and write logical arguments in order to prove advanced mathematical results.
- Effective Communication: Students will be able to effectively communicate mathematical concepts, problems and their solutions in written and oral form.

Courses – The M.S. in Mathematics (Applied Option) requires at least 35 hours of approved graduate course work from the list below, of which 26 hours are the core and required courses listed below. The remaining 9 credit hours of electives must include at least two courses in an emphasis area of the student's choice, subject to the advisory committee's approval. Please note that the electives must differ from the chosen core courses and that only three 400-level courses are permitted by the Graduate School for an M.S. degree.

Required courses:	Math 500 Proseminar (1 credit)
(5 credits)	Math 702 Directed Study (4+ credits)
Core Courses:	Math 464 Linear Optimization (3 credits)
(21 credits)	Math 516 Simulation Methods (3 credits)
	Math 540 Applied Mathematics I (3 credits)
	Math 548 Numerical Analysis (3 credits)
	Math 564 OR Math 566 – Optimization (3 credits)
	Stat 443 Applied Probability (3 credits)
	Stat 523 OR Stat 572 – Statistical Methods (3 credits)

Graduate Electives: (9 credits)	Three additional graduate level courses (of which one may be 400 level) including at least two from a chosen emphasis area. Examples of emphasis areas include (but are not limited to) two courses in Optimization (Math 564, 565, 566, 567, 574), Numerical Analysis (Math 545, 546), Modeling (570, 571, 579, 586), Data Analytics (Stat 435, 437, 536, 577, CptS 415, 570, 577), or any other focus. Courses from another department related to the student's research interests may be included.

Math 702 and M.S. Examination – Students must take at least four hours of Math 702. Ordinarily, the student must complete a project in Applied Mathematics under the direction of his or her advisor and committee. The final M.S. exam may also cover all of the student's coursework and the content of Math 401 & 402 Analysis, Math 420 Linear Algebra, and Math 421 Abstract Algebra. The student's advisory committee will conduct this examination when all other requirements for graduation have been fulfilled. The format of the final examination and project is at the discretion of the advisory committee.

Electives and Internships – During a standard two-year program, a student taking 10 credit hours (most students take more) will have time to include several elective courses in addition to the course work required. Students are strongly encouraged to take additional courses in math or other departments, spend a summer on an internship, and to attend seminars in applied mathematics. These elective courses, internship, and the project completed in Math 702 should form an effective combination in a particular area of interest to each student.

Not currently offered as of Fall 2021

6 THE M.S. IN MATHEMATICS – COMPUTATIONAL FINANCE OPTION

Description and Learning Outcomes – This is a Master of Science degree specifically designed to provide students with strong mathematics backgrounds in up-to-date mathematical and computational skills in quantitative finance and insurance. Such training is intended to produce individuals who can confidently undertake interdisciplinary research and analysis in modern financial risk management. The focus will be in preparing individuals to face the quantitative and computational challenges in financial service and insurance sectors. In order to achieve these goals the program provides:

- Solid training in Financial Mathematics, Optimization, and Stochastic Simulation;
- Broad background in the areas of Finance and Insurance, Numerical Analysis, and Statistical Analysis;
- Both group and individual projects;
- A strong computing component and acquisition of programming languages through coursework or independent study.

The M.S. in Mathematics (Computational Finance Option) is designed to meet the following learning outcomes:

- Problem Solving: Students will be able to identify mathematical and computational methods in order to solve problems.
- Deductive Thinking: Students will be able to read and write logical arguments in order to prove advanced mathematical results.
- Effective Communication: Students will be able to effectively communicate mathematical concepts, problems and their solutions in written and oral form.

Courses – The M.S. in Mathematics (Computational Finance Option) requires at least 32 hours of approved graduate course work from the list below. Core requirements make up 17 of these hours, 12 hours must be comprised of courses listed in Group 1 (at least 2 courses) and Group 2 (at least 2 courses) below, and the remaining 3 hours can be filled with any additional mathematics or statistics course.

Required Courses: (5 credits)	Math 500 Proseminar (1 credit) Math 702 Directed Study (4+ credits)
Core Courses: (12 credits)	Math 564 OR Math 566 – Optimization (3 credits) Math 516 OR Stat 536 – Simulation Methods (3 credits) Math 575 Asset Pricing in Financial Engineering (3 credits) Math 576 Quantitative Risk Management (3 credits)

Graduate Electives: (12 credits) — At least two courses from Group 1 (Analysis, Computation, and Statistics) and two courses from Group 2 (Economics, Finance, and Management)

Group 1	Math 540 Applied Mathematics I Math 545 Numerical Analysis of Parabolic and Hyperbolic PDEs Math 548 Numerical Analysis Math 560 Partial Differential Equations I Math 564 Convex and Nonlinear Optimization Math 565 Nonsmooth Analysis and Optimization with Applications Math/Stat 547 Computational Stochastic Processes Stat 523 Statistical Methods for Engineers and Scientists Stat 556 Introduction to Statistical Theory Stat 544 Applied Stochastic Processes
Group 2	Fin 421 Financial Institutions and Intermediation Fin 429 Financial Modeling Fin 521 Interest Rates and Financial Markets Fin 526 Financial Management Fin 427/527 Investment Analysis Fin 428/528 Portfolio Theory and Financial Engineering Fin 481/581 International Finance Stat 516 Time Series Stat 519 Applied Multivariate Analysis EconS 510 Statistics for Economists EconS 511 Econometrics I EconS 512 Econometrics II

Elective (3 credits) — Any graduate level mathematics or statistics course

Math 702 and M.S. Examination – Each student will take at least four hours of Math 702 that must involve the completion of an individual project. Topics of individual projects include, for example, analysis of financial time series data, pricing of financial derivatives via simulation, asset allocation optimization, or formulation of a solution to the problem encountered during a summer internship. The student's advisory committee will supervise this project, and a written project report should be submitted by the end of the student's fourth semester when the project is completed. The final M.S. examination will include an oral presentation by the student about the results of the project, with questions from the student's advisory committee. In addition, the final oral examination ~~will~~ may also cover the student's coursework and the content of Math 401, 402, 420, and 421 (Analysis, Linear and Abstract Algebra).

7 THE M.S. IN MATHEMATICS – MATHEMATICS TEACHING OPTION

Description and Learning Outcomes – This is a two-year professional degree designed to prepare teachers of mathematics at the community college, four-year college, or secondary levels. The program combines advanced work in mathematics with coursework in education and practice teaching, providing a foundation in both mathematical content and teaching methodology.

This M.S. program is designed to meet the following learning outcomes:

- Critical Thinking: Students will have developed the skills necessary to critically read and evaluate both practitioner and research articles in mathematics education journals.
- Pedagogical Content Knowledge: Students will have the mathematical knowledge necessary to teach upper secondary and lower level college mathematics.
- Effective Communication: Students will be able to speak effectively about mathematics, and write scholarly contributions to practitioner journals.

Courses – A candidate must complete 35 semester hours of approved graduate work, both in mathematical content and teaching methods. This must include 27 semester hours of graded course work and 8 semester hours of non-graded work.

Required Courses: (5 credits, nongraded)	Math 500 Proseminar (1 credit) Math 702 (4+ credits)
Core Courses: (15 credits, graded)	Math 501 Real Analysis (3 credits) Math 531 Intersections of Culture and Mathematics (3 credits) Math 532 Advanced Mathematical Thinking (3 credits) Math 533 Teaching College Mathematics (3 credits) Math 534 Theories of Learning in Mathematics (3 credits)
Practical Training: (3 credits, nongraded)	Math 597 Instruction Seminar (1 credit/semester, 3 semesters) One semester shadowing Math 251 or 252 Fundamentals of Mathematics for elementary teachers Two or more semesters teaching an undergraduate math course
Graduate Electives: (12 credits, graded)	Four courses from the following list; at least one course must be included from each of the three groups

Group 1: Algebra, Discrete Math, & Geometry	Math 505 Abstract Algebra Math 507 Advanced Theory of Numbers Math 553 Graph Theory Math 555 Topics in Combinatorics

Group 2: Probability & Statistics	Stat 443 Applied Probability Stat 510 Topics in Probability and Statistics Stat 519 Applied Multivariate Analysis Stat 544 Applied Stochastic Processes Stat 548 Statistical Theory I Stat 549 Statistical Theory II Stat 573 Reliability Stat 575 The Theory of Multivariate Analysis
Group 3: Applied & Numerical	Math 464 Linear Optimization Math 566 Optimization in Networks Math 508 Advanced Math Methods for Physics and Engineering Math 540 Applied Mathematics I Math 541 Applied Mathematics II Math 548 Numerical Analysis Math 563 Mathematical Genetics Math 564 Convex and Nonlinear Optimization Math 565 Nonsmooth Analysis and Optimization with Applications Math 567 Integer and Combinatorial Optimization Math 570/Math 571 Mathematical Foundations of Continuum Mechanics I & II Math 574 Topics in Optimization Math 579 Math Modeling in the Bio and Health Sciences Math 586 Math Modeling in the Natural Sciences

Math 702 and M.S. Examination – The four required hours of Math 702 involve independent study under the guidance of a faculty member, normally the chair of the student's advisory committee. The topic of the study must pertain to curricular and pedagogical issues relevant to teaching mathematics. The results of this study are often summarized in a paper, but this is not mandatory. In addition, students must complete a final oral examination, covering the student's coursework and the content of Math 702, 401, 402, 420, and 421. This will include an oral presentation on the results of the student's Math 702 project. The student's advisory committee will conduct this examination when all other requirements for graduation have been fulfilled. The format of the final examination, project, and/or paper is at the discretion of the advisory committee.

8 THE M.S. IN STATISTICS

Description and Learning Outcomes – This is a two-year degree designed to prepare students to work in industry or to apply to a PhD program by providing them with a broad statistical skill set. Students may enroll in the M.S. in Statistics program directly or while seeking a PhD in another field. Students can choose courses from four field areas: Statistical Theory, Applied Statistical Methods, Bioinformatics and Biostatistics, and Econometrics and Time Series.

This M.S. program is designed to lead the student to the following learning outcomes:

- Problem solving skills: Students are expected to learn the fundamental tools of statistical modeling and implementation. Skills for identifying and solving statistical problems arising in various interdisciplinary areas is an important expected learning outcome associated with this degree.
- Ability to work individually or in groups: Statistical modeling can be pursued at an individual level or as part of a group effort with the group comprised of experts in various allied fields. Students are expected to develop such statistical skills so that modeling and analysis can be done in a timely and efficient manner.
- Communication skills: Students should develop good communication skills so that the interpretation and implications of the results obtained from analysis of a statistical model can be presented in an effective manner.

For PhD Students in Other Departments – There are many disciplines and sub disciplines that require extensive advanced training in statistics to perform graduate research work. One natural avenue for students at WSU to obtain this advanced training is to pursue an M.S. in Statistics. It provides the skillset they need to perform research in their primary field of study and such a degree enhances their marketability. All students enrolled in a PhD program in Pullman are able to receive advanced statistical training at the Master of Science level. By pursuing this option, a student can simultaneously be enrolled in the M.S. in Statistics option and the program of their primary PhD degree-granting unit.

Normally, students will have taken several graduate level Statistics courses before adding the M.S. program to their PhD program. Once they have found an advisor and formed a committee, students will fill out an Add an Academic Program Degree Level form, to be submitted by the graduate coordinator in the Department of Mathematics & Statistics. There is no additional application fee. Students must obtain consent from their primary department and the Department of Mathematics & Statistics to submit this form. At the same time, the student should submit a completed Program of Study for the M.S. Statistics. Note that the Department of Mathematics & Statistics does not usually provide assistantships to students who are getting a PhD in another department. The degree must be added at least one semester before the semester the student intends to complete the degree.

Courses – The M.S. in Statistics requires a total of 33 credit hours, including four credits of Stat 702, a written project, and passage of a comprehensive oral examination. Any changes to the requirements for a particular student can be made only with prior approval of the student's committee and the chair of the Graduate Studies Committee. Special topics covered in Stat 510 may be used to satisfy an elective with approval of the student's committee. Students who do not have a background in a field outside of statistics, mathematics, or computer science are encouraged to take at least two upper division courses in another substantive area.

Core requirements account for 24 of the required credit hours; the remaining 9 hours must include three or more courses representing at least two field areas chosen from the table below.

Required Courses: (4+ hours)
Stat 702 Master's Special Problems/Directed Study

Core Courses: (20 hours)
Stat 443 AND Stat 556 Probability and Statistical Theory (6 hours)
OR Stat 548 AND Stat 549
Stat 512 Analysis of Variance of Designed Experiments (3 hours)
Stat 536 Statistical Computing (3 hours)
Stat 530 OR Stat 535 Regression (3 hours)
Stat 575 The Theory of Multivariate Analysis (3 hours)
Stat 590 Statistical Consulting Practicum (2 hours)

Electives: (9 hours)
Three courses from at least two field areas in the table below

Statistical Theory*	Stat 544 Applied Stochastic Processes Stat 548 Statistical Theory I Stat 549 Statistical Theory II Stat 577 Statistical Learning Theory
Applied Statistical Methods	Stat 519 Applied Multivariate Analysis Stat 572 Quality Control Stat 573 Reliability Stat 574 Linear and Nonlinear Mixed Models Stat 576 Bayesian Analysis
Bioinformatics and Biostatistics	Stat 520 Statistical Analysis of Qualitative Data Stat 522 Biostatistics and Statistical Epidemiology Stat 565 Analyzing Microarray and Genomic Data Math 563 Mathematical Genetics
Econometrics and Time Series	Stat 508 Environmental Spatial Statistics Stat 516 Time Series Econ 511 Econometrics I Econ 512 Econometrics II Econ 513 Econometrics III

*Stat 548 and 549 cannot be used in the field area if counted for the core requirements.

Stat 702 and M.S. Examination – There is no thesis requirement; however, an M.S. in Statistics student is required to do a written Masters project equivalent to 2-4 hours of Stat 702. Therefore, early in the students graduate program (by the second semester as recommended by the Graduate School), the student should obtain a project supervisor and form an M.S. committee. The student's project supervisor will normally serve as the chair of the M.S. committee, which will usually include two additional faculty with interest in Statistics. The student is required to make the final draft of the project report available to the M.S. committee at least two weeks prior to the final Masters oral exam. It is the committee's responsibility to give final approval to the project.

The student must select one of three M.S. project options in order to satisfy the project requirement. Selection of the project option must be made in consultation with the student's M.S. committee chair. The three project options are as follows:

1. The student can do an independent research project (advised by the supervisor). Acceptable topics for a project include an original data analysis or original research on a statistical problem. The student is required to write the final draft of the project report.
2. The student can thoroughly study a statistical modeling and methodology paper (suggested by the supervisor). The student then reads the selected paper, together with at least three other relevant papers and then prepares a comprehensive written report which includes, but is not limited to, the central objectives of the problem, modeling, methodology, implementation, results, and conclusions. The student is required to write a summary report on the topic and to include in the report the computer code for implementation of the methodology.
3. The student can complete an internship that is compatible with the student's chosen career specialization within statistics (approved by the supervisor). The internship should be a full-time affiliation for a period of not less than eight weeks duration and not less than 400 hours. A monthly report is required during the internship and a written report is to be turned in at the end of the internship.

For all three options, the student is required to write a final summary report on the subject and make it available to the M.S. committee at least two weeks prior to the final Master's Examination. It is the committee's responsibility to give final approval.

The final Masters oral exam is a two-hour oral exam conducted by the student's M.S. committee. The oral exam will consist of a (i) 30-minute presentation of the student's project/paper/internship, (ii) 15-minute period following the Master's project presentation for questions by the committee related to the results contained in the Masters project, and (iii) 75-minute period devoted to a comprehensive oral exam covering the material in Stat 443, Stat 512, Stat 530, and Stat 556, as well as material covered in additional course work. The student is expected to be thoroughly familiar with a wide array of statistical concepts contained in the list of topics and concepts obtained from the graduate coordinator.

Suggested schedule for an MS Statistics student obtaining a PhD in another program:

Year 1

Fall: Stat 512 Analysis of Variance of Designed Experiments
Stat 443 Applied Probability

Spring: Stat 556 Intro to Statistical Theory (prereq Stat 443)
Stat 530 Applied Linear Models (name may be changing)

Year 2

Fall: Stat 575 Theory of Multivariate Analysis (prereq Stat 556)
Stat 536 Statistical Computing (prereq Stat 556)

Spring: Stat 590 Statistical Consulting (at end of coursework)
Stat Elective

Year 3

Fall: Stat Elective
Stat Elective

Spring: Defense

Note: It is strongly recommended that students interested in the MS statistics program complete Stat 443 and Stat 512 first in the fall, then Stat 556 and Stat 530 the following spring. These courses will prepare the student for future electives and core requirements. Stat 443 should be considered a prerequisite for all other classes and must be taken before Stat 556. Please contact the graduate coordinator with any questions at gradinfo@math.wsu.edu