

2020-2021

Statistics Graduate Student

Statistics

Factors Default
Indicators Variances
group Statement Estimated Models
Set Integrations
Examples
Output Likelihood Analysis Continuous Estimator parameter
Data Specify Growth Mixture Variables Multiple Number
Values Growth Random Outcome Model
Using



Oregon State University
College of Science

Graduate Studies Co-Directors

Sarah Emerson and Claudio Fuentes

2020-2021

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A. INTRODUCTION

The purpose of this guidebook is to acquaint students in the Department of Statistics with the organization, policies, procedures, and facilities of the Department. It contains all rules and policies relevant to the MS and PhD programs in Statistics. All graduate program at Oregon State University (OSU) fall under the authority of the Graduate School, and so students should also be aware of all Graduate School policies and procedures, available at gradschool.oregonstate.edu.

Additional material about the Department and the University can be found at: stat.oregonstate.edu.

A.1. Fields of Study

The Department of Statistics offers graduate programs leading to the Master of Science, Master of Arts, and Doctor of Philosophy degrees in Statistics. This guidebook pertains to these programs.

The Department also offers a Graduate Certificate and a Master of Science in Data Analytics. The policies and procedures for the Data Analytics programs are available at ecampus.oregonstate.edu/online-degrees/graduate/data-analytics/.

Within the general field of statistics, a student may specialize in any of several areas of study, depending on his or her background and interests. Current research areas in the Department include biostatistics; environmental statistics; generalized regression models; sampling methodology; statistical genetics and genomics; statistical ecology; spatial statistics; network analysis; and data visualization. Areas of collaborative research and application include agriculture, ecology, forestry, biosciences, toxicology, and sample surveys (the OSU Survey Research Center is part of the Department of Statistics).

A.2. Terminology

In reading what follows, it is useful to have firmly in mind the following bits of terminology:

Department Office: This is the center of the Department, where the office personnel have their desks. It is located in Weniger 239. Many student inquiries can be answered in this office. This office also handles things like key requests and student records. The Department's Office manager is Valarie Thrower and the Graduate Coordinator is Tania Mayer. Tania can be reached via the department's email address – statistics.office@oregonstate.edu.

Department Head: The Department Head of Statistics, Dr. Lisa Ganio is the final arbiter of decisions within the Department. Lisa Ganio's office is located next to the Department office, Weniger 237.

Director of Graduate Studies (DGS): The Director(s) of Graduate Studies oversees the Statistics graduate program, is the liaison to the OSU Graduate School, and is the faculty member in the Department who has most contact with the students. Among other things, the DGS communicates with and counsels prospective students, interprets Departmental policy for current students, and advises students regarding their progress in the Department. For the 2020-21 academic year, the Co-DGS are Dr. Sarah Emerson and Dr. Claudio Fuentes.

Graduate Committee: This committee, consisting of four graduate faculty members in the Department, makes decisions regarding student admissions, financial aid, and other student-related matters.

Student's Committee: In any Program of Study, which is an official Graduate School document listing the courses that a student takes, the student forms a committee of faculty members that approves the student's program of study and evaluates the student's progress.

Advisor / Major Professor: These two terms are sometimes used interchangeably, but there is a useful distinction to be made between them. The main difference between a student's advisor and a student's major professor is one of assignment versus choice. All students in the Department are assigned a faculty member as an advisor when they first enter the Department. The advisor helps the student decide which courses to take and, additionally, helps the student form a committee. In forming a committee, the student chooses a major professor, who may or may not be the same person as the student's initial advisor. Thereafter, the major professor automatically acts as the student's advisor.

Exam Committee: This committee, consisting of several faculty members is responsible for compiling the comprehensive exams. The chair of this committee is the person who deals with all appeals regarding these exams and their grading. For the 2020-21 academic year, the chair of this committee is Dr. Yuan Jiang.

Graduate School Office: This office is where students conduct business with the Graduate School, such as filing programs and scheduling committee meetings. It is located Heckart Lodge on Jefferson Street. Most forms that students need throughout their program(s) are available online at the Graduate School website (<https://gradschool.oregonstate.edu/>)

University Business Office (Cashier's Desk): Most financial matters are handled by this office. It is located on the first floor of the Kerr Administration Building.

Arts and Sciences Business Center (ASBC): This center handles all financial and human resources activities for the Department. Please check with the Department Office staff for the appropriate ASBC contact person.

Alternate-Year Courses: A few of the more advanced courses in the Department are typically offered only every other year, due to their limited enrollments. Such a course or course sequence is usually paired with a complementary course or sequence, one being offered in even years, the other in odd years. It is extremely important that students (especially those in the PhD program) be aware of which of these courses are taught in which years when planning their study programs. Students should do so by consulting the schedule of classes or their advisor. Among the PhD requirements are three such alternate year courses and course sequences: the Linear Model Theory sequence, which is offered in Winter and Spring of even-numbered years, the Advanced Theory of Statistics sequence, which is offered in Winter, Spring and Fall of odd-numbered years. Prerequisites to these courses, especially Math 511, offered each Fall, must also be considered. Failure to do so may mean that the student has to spend an extra year to complete his or her course work. **Such an extension is usually not feasible for students on financial aid (i.e., a teaching or research assistantship).**

A.3. General Contact Information

a. Important Department Contacts:

- i. Co-directors of Graduate Studies: Dr. Sarah Emerson (emersosa@stat.oregonstate.edu) & Dr. Claudio Fuentes (fuentesc@stat.oregonstate.edu)
- ii. Graduate Coordinator: Tania Mayer (statistics.office@oregonstate.edu)
- iii. Office Manager: contact for financial questions (GTA/GRA pay, travel, employment, other expenses): Valarie Thrower (valarie.thrower@oregonstate.edu)
- iv. Contact for Course Overrides: Course instructor and Tania Mayer via the Registration Override Request form (<https://stat.oregonstate.edu/form/registration-restriction-override-request>)

b. Program website address: stat.oregonstate.edu

c. Graduate School

What is the [Graduate School](#)?

- The Graduate School at OSU oversees graduate education and assures quality and consistent interpretation of Graduate Council policies related to graduate education across all programs. Graduate School policies within the [OSU Catalog](#) is the official source for information regarding OSU graduate education policy and procedures. It is the student's responsibility to refer to the catalog for this information.
- The Graduate School supports students throughout the academic [lifecycle](#), from admissions to degree completion.
- The Graduate Schools offers an array of [professional development opportunities](#) specific to the success of graduate students. Topics covered in these offerings include: research and ethics, teaching and facilitation, writing and communication, leadership and management, career skills, grad life and wellness. Please visit the Graduate School links to browse our student success offerings.

d. University Emergency Contacts

OSU is dedicated to providing a safe and secure learning and living environment for its community members. [The Department of Public Safety](#) provides resources, information, emergency phone numbers, and protocols for maintaining personal safety. Sign up for [OSU Alerts](#) to get timely messages delivered right to your phone or inbox regarding university closures and other emergency situations.

A.4. Academic Support Services

OSU offers a wide array of academic and support resources designed to meet graduate student needs. Some of the more commonly used resources are included below. For a more complete list, please visit the Graduate School's [Student Resources web page](#). Note that some services are campus-specific. See also [OSU Cascades Campus Life](#) and [Ecampus Student Services](#) for services specifically provided to graduate students pursuing degrees or certificates via those specific venues.

[Campus Safety](#) – Emergency phone numbers, university alerts

[Career Development Center](#) – Resume/CV, networking, job search strategies

[Childcare and Family Resources](#) – University child care centers, child care assistance

[Counseling and Psychological Services \(CAPS\)](#) – Individual and group counseling

[Cultural Resource Centers](#) – Cultural based community centers, social support
[Disability Access Services \(DAS\)](#) – Academic accommodations
[Equal Opportunity and Access \(EOA\)](#) – Employment accommodations, discrimination or bias response
[Financing your education](#) – Funding options and information, graduate awards
[Graduate Student Success Center \(GSSC\)](#) – Lounge, study space, printing, reservable meeting rooms
[Graduate Writing Center](#) – Writing workshops, groups, and 1:1 writing coaching
[Health Insurance](#) – Plans for graduate students and graduate employees
[Human Services Resource Center \(HSRC\)](#) – Food pantry, housing and food stamp assistance
[Institutional Review Board \(IRB\)](#) – Review for human subjects research
[Office of International Services \(OIS\)](#) – Visa and immigration advising
[Ombuds Conflict Management Services](#) – Informal, impartial conflict resolution advising
[Recreational Sports](#) – Dixon Recreation Center, intramural sports
[Statistics Consulting Service](#) – Graduate student research statistical advising
[Student Health Services \(SHS\)](#) – Clinic and pharmacy
[Student Multimedia Services \(SMS\)](#) – Poster printing, equipment and laptop loans
[Transportation Alternatives](#) – Bike, bus, SafeRide
[Transportation and Parking Services \(TAPS\)](#) – Parking permits, maps
[Valley Library](#) – Reference and research assistance, study spaces, research tools

A.5. Requirements

University requirements for advanced degrees are set forth in the “Graduate Student Information” section of the Oregon State University General Catalog and Schedule of Classes, which is available at the following link: catalog.oregonstate.edu.

A handy outline of University requirements and procedures is provided in the “Graduate Student Success Guide.” A link is available: gradschool.oregonstate.edu/progress. The Department has certain requirements of its own in addition to those of the Graduate School. These Departmental requirements are set forth in this guidebook. **It is the student's responsibility to be aware of and satisfy both Graduate School and Department requirements.**

To adapt the graduate program to the needs of the individual student, deviations from the normal requirements may be justified in some cases. (See Section A.5 on Petitions.) For example, the master's degree requirements are sometimes altered for a transfer student.

All students are governed by the academic regulations, which appear in *OSU's General Catalog and Schedule of Classes*. These regulations cover such things as how to register, how to add and drop classes, and the university's grading system. A copy of the Schedule of Classes may be obtained at the Registrar's office in Kerr Administration Building and is available online at catalog.oregonstate.edu.

A.6. Advising

Each student is assigned an advisor upon entering the Department. Once the student selects a major professor (see Sections B.2 and C.3), the major professor acts as the student's advisor. The role of the advisor is to assist the student in the selection of courses, to help solve procedural problems, and to interpret Department policy on matters not covered by this guidebook. **Each student should meet with**

his or her advisor before registration each quarter and any other time advice is needed. The Director of Graduate Studies is also available to help with these matters.

A.7. Petitions

A student who wants to deviate from Department requirements should first discuss the matter with his or her advisor or the Director(s) of Graduate Studies. A written petition, signed by the student and the advisor, is then sent to the Department's Graduate Committee. The petition must be specific with regard to the requirements involved and the circumstances that justify deviation from these requirements. If the Graduate Committee denies the petition, its decision may be appealed to the Department Chair.

For more information, a copy of *"Grievance Procedures for Graduate Students"* may be obtained in the Graduate School office or at: gradschool.oregonstate.edu/progress/grievance-procedures.

A.8. Academic Honesty

Oregon State University expects students to be honest in their academic work. Academic dishonesty is defined as an intentional act of deception in which a student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work. It includes cheating (the intentional use or attempted use of unauthorized materials, information or study aids), fabrication (the intentional falsification or invention of any information), assisting in dishonesty or tampering (intentionally or knowingly helping or attempting to help another commit an act of dishonesty or tampering with evaluation instruments and documents), and plagiarism (intentionally or knowingly representing the words or ideas of another person as one's own).

Academic dishonesty may result in academic penalties including failing an assignment, failing a course, and being prohibited from pursuing work within an academic major or college/school. Further information regarding academic honesty policies may be obtained at: <http://studentlife.oregonstate.edu/studentconduct>.

A.9. Provisional Admission

Students are admitted into the master's program on one of two bases: full admission or provisional admission. Full admission may be granted to students who meet all of the admissions requirements. Students who meet all of the requirements except for one or two courses may be granted provisional admission so they can begin their graduate studies while completing the remaining required courses. When the remedial course work is completed the Graduate School will remove the provisional status. Provisional admission is intended for students who have had calculus, some exposure to statistics, and some scientific maturity (for example, a degree and some research in biology).

B. THE MASTER'S DEGREE PROGRAMS

B.1. Summary

The Master's degree programs (MS thesis or non-thesis option; MA) in Statistics typically take five academic quarters of full-time enrollment to complete. The coursework requirements for the degrees can be found here, <https://catalog.oregonstate.edu/college-departments/science/statistics/#programstext>, and details are also provided below.

B.2. Program Learning Objectives

The program learning objectives for the Master's programs are:

1. Gain a thorough understanding of the theoretical and applied principles of statistics.
2. Demonstrate the ability to summarize a technical report and/or statistical analysis and interpret results. Also shows the ability for broader implication of application in the statistical field.
3. Communicate statistical concepts clearly and professionally in oral form.
4. Demonstrate preparedness to provide guidance in statistical design and analysis.

B.3. Program Progression

New students in the master's program are assigned an advisor who helps them select their first term courses. By the end of the first or second term students should begin the following sequence of steps for obtaining a master's degree. The steps outlined and discussed below are for non-thesis degree programs. The steps for a thesis degree program are very similar.

1. Select a major professor, based upon mutual professional interests.
2. If desired, select a minor field and a minor professor (with the help of the major professor).
3. With the help of the major (and minor) professors, develop a program of course work that meets the requirements of the major (and minor fields).
4. Fill out and file a form describing the program of course work with the Graduate School office. This must be completed **at least 15 weeks before the final oral exam.**
5. Complete the courses described in the study program.
6. Take and pass the appropriate Department written comprehensive exams.
7. Complete the consulting and research seminar requirements.
8. During the last term of course work, register for 3 credits of ST 501, take and pass the final oral exam. **Schedule this exam with the Graduate School at least two weeks before the final oral exam.**

Details regarding Graduate School deadlines can be found at: gradschool.oregonstate.edu/success/deadlines.

B.4. Major Professor

The major professor serves as the student's advisor and is one of the examiners at the final oral examination. The student, based on mutual professional interests, chooses the major professor who may be a different person than the advisor assigned to the student initially. Students need not be concerned about offending a faculty member by choosing a different major professor. The faculty wishes the students to have the best major professor for their particular interests. One of the major

professor's first duties is to help the student choose a major and minor field (if desired), choose a minor professor, and plan a study program.

B.5. Major and Minor Fields

The student's major is Statistics. A minor field is optional. The minor field may be a field in another department, in which case it is the student's responsibility to ensure that department's minor requirements are satisfied. The university requires that at least 15 credit hours be devoted to the minor field.

B.6. Minor Professor

If a minor field is selected, the student, with the help of the major professor, chooses a professor to represent the minor field. The minor professor must be on the graduate faculty of the department that offers the minor. The minor professor is one of the examiners at the final oral examination.

B.7. Program of Study

A program of study must be filed with the Graduate School at least 15 weeks before the final oral exam. Forms for filing the program (and for making changes to the program) are available in the Graduate School office or on the Graduate School's web page at: gradschool.oregonstate.edu/forms. The study program is prepared with the guidance of the major professor and minor professor, if applicable. (See Section B.6 on course requirements.) The major professor and Department Chair must sign the completed form. If the student selects a minor field then the minor professor must sign as well. The study program, once filed, formalizes the choice of major and minor professors. *Please note, as of Fall term, 2019, the graduate school will be converting the program of study form and signatures to a digital system.*

B.8. Course Requirements

Prerequisites:

- Single-variable and multivariable calculus (approximately 4 quarters)
- Linear algebra
- A course in mathematical statistics (typically a one-year or two-term sequence). Typical textbook: *Mathematical Statistics with Applications by Mendenhall et al.*
- One or more applied statistics courses (recommended, but not required)

Required course work for a Master's degree in Statistics:

Class	Title	Credit hours
ST541	Probability, Computing, and Simulation in Statistics	4
ST551, 552, 553	Statistical Methods	12
ST561, 562, 563	Theory of Statistics	12
ST623	Generalized Regression Models	3
ST501	Research (final MS project taken in your last term)	3
ST507 (Sect 1)	Attendance at Consulting Seminar	1
ST507 (Sect 3)	Attendance at Research Seminar	2
ST509	Consulting Practicum	2
	Additional approved courses (see below)	16
	Total	55 Credit hours

Approved additional courses include:

- All 500 level Statistic department courses except ST 511, 512, 513, 515, 516, 517, 518, 521, & 522.
- All 600 level courses in the Statistics Department
- Courses in the Data Analytics program (with the exceptions of ST 516, 517, & 518) may be among the additional courses; however, in cases where similar courses are offered on-campus (e.g., Time Series, Multivariate Statistics), students are encouraged to register for the on-campus courses.
- Courses with a 0 as the middle digit and courses in other departments may be used only with the consent of the major professor (and minor professor if the course is listed in the minor).
- No more than three courses from other departments may be used.

If there is any confusion about approved courses, students should check with their advisor/major professor and/or the Director of Graduate Studies.

Special circumstances may warrant exceptions to these course requirements. The major and minor advisors and the Director of Graduate Studies must approve exceptions. A student planning to continue for a PhD in Statistics should take Advanced Calculus (MTH 311-312) and Real Analysis (MTH 511-512).

Notice that the Statistics Department requires more than Oregon State University's minimum of 45 credit hours for a master's degree.

B.9. Language Requirements

No foreign language is required for the MS degree in Statistics. Proficiency in a foreign language equivalent to that attained in two years of university-level course work is required for the Master of Arts degree. The Graduate School certifies this proficiency. Otherwise, the requirements for the Master of Arts degree are the same as those for the Master of Science degree.

B.10. Thesis or Project

A thesis (designated as ST 503) or research project (ST 501) is required for a master's degree in statistics. ST 503 must be included in the study program for 6 credit hours if a student is producing a thesis. ST 501 may be included for 3 to 6 credit hours if a student is conducting a research project. All full-time second-year students must sign up for their project in the final quarter of their second year. The number of credit hours and the amount of effort should be commensurate. Since each credit corresponds to approximately three hours of work per week, a 3-credit project would involve 90 to 100 hours of work. It is rare for a project to warrant more than 3 credit hours. The thesis option is rare. If you wish to do a thesis, please inform your advisor when you enter the program.

For the ST 501 option, the student:

- (i) conducts a research project selected with the help of the major professor;
- (ii) prepares a 10- to 15-page paper (double-spaced, 1 inch margins, 12 point font) on the project, to be given to the members of the master's committee **no later than one week before the final oral exam**;
- (iii) prepares a 20- to 30-minute presentation of the project as part of the final oral exam (see Section B.11).

The page limit on the paper includes figures, tables, and appendices. Any delay delivering the final report, and any exceptions to the report length limitations, must be approved by all members of the master's committee.

Note: The University limits the total hours of "blanket courses" (those designated with a middle digit of zero) that may be included on a program, but thesis and "research in lieu of thesis" are not counted in this total.

B.11. Written Comprehensive Examinations

To receive an MS degree in Statistics a student must pass two written comprehensive examinations—one in statistical methods and one in the theory of statistics. **A student is expected to take the comprehensive examination over a subject area at the first opportunity following completion of the corresponding coursework (see section D). Failure to do so can be considered as contributing to unsatisfactory progress towards the degree.**

B.12. Master's Committee

A student's Master's Committee includes the major professor, and two other members. If there is a minor, then one of the members is the minor professor, who is from the department that offers the minor. The student chooses the committee members with the help of the major professor. If the student chooses to write a thesis, the Graduate School appoints a Graduate Council representative as a fourth committee member. The Master's Committee examines the student at the final oral examination.

B.13. Final Oral Examination

A 2-hour final oral examination is required by the Graduate School for all master's programs. It is taken after the student has passed the written comprehensive examinations and has completed or is in the process of completing all courses on his or her study program. ST 501 or ST 503 (See section B.8) should be taken in the same quarter as the final oral exam. The student first contacts all of the members of his or her Master's Committee to determine a mutually agreeable examination date and time. Please be aware that faculty members tend to get very busy at the end of each quarter, and so the final oral exam should be scheduled well in advance. Remote participation in final exams is allowed. If any committee members will be meeting in person, the student should schedule a room for the examination. The student then files an Event Scheduling Form with the Graduate School at least two weeks in advance of the examination. The final oral examination should be scheduled for two hours. The first 20 to 30 minutes of the examination is the project presentation. During the remaining time, the committee questions the student. These questions may be related to the project and/or the student's coursework.

B.14. Timing

All students are expected to progress through the program in a timely manner. In general, this means that programs are to be filed, courses taken, exams held, and other requirements met at the earliest opportunity. The normal length, excluding summer, is five quarters. MS students receiving financial aid should pay special attention to the timing of their programs as aid is not guaranteed beyond 5 quarters. A student who does not have the necessary prerequisites may take somewhat longer. Students who fail to make timely and satisfactory progress may be dismissed from the program. (See Section F for additional details.)

Shown below is an **example** program for the five quarters of study (number of credits are shown in parentheses after each course):

Fall Quarter - Year 1	Winter Quarter - Year 1	Spring Quarter - Year 1
ST551 Methods (4)	ST552 Methods (4)	ST553 Methods (4)
ST561 Theory (4)	ST562 Theory (4)	ST562 Theory (4)
Elective (3)	Elective (3)	Elective (3)
ST507 Seminar (1)	ST507 Consulting (2)	ST507 Seminar (1)
Total 12 credits	Total 13 credits	Total 13 credits

Before start of Year 2:

- **Methods Comprehensive Exam**
- **Theory Comprehensive Exam**

Fall Quarter - Year 2	Winter Quarter - Year 2
ST541 (4)	ST501 Research Project and Final Oral Exam (3)
ST623 (3)	Elective (3)
Elective (3)	Elective (3)
ST509 Consulting (2)	ST507 Seminar (1)
Total 12 credits	Total 10 credits

B.15. Seely Award

The Justus F. Seely award is a monetary prize given to the top first-year student. The award is presented each fall term after completion of the comprehensive exams, and the winner is determined by a faculty vote. Eligible students are those who have completed just one academic year as graduate students in the Department of Statistics, who have had at least one of the sequences ST 551-2-3 or ST 561-2-3, and who have taken at least one of the comprehensive exams.

C. THE DOCTORAL DEGREE PROGRAM

C.1. Summary

Each student is expected to fulfill the requirements for the full admission into the program, as described in Section C.4, as soon as possible. New students in the doctoral program are assigned an advisor who helps them select their first term's courses; these students are typically expected to identify a major professor by the end of their first year in the program. In addition to completing the PhD coursework requirements given here, and also provided below, the successful PhD student will also produce a PhD dissertation of original work that contributes to the field of Statistics.

C.2. Program Learning Objectives

The program learning objectives for the PhD program are:

1. State a research problem clearly, providing motivation for undertaking the research.
2. Demonstrate sound knowledge of literature in the area, and of prior work on the specific research problem.
3. Demonstrate the potential value of solution to the research problem in advancing knowledge within the area of study.
4. Apply sound state-of-the-field research methods/tools to solve the defined problem and describe the methods/tools effectively.
5. Analyze and interpret research results/data effectively.
6. Communicate research results clearly and professionally in **written** form.
7. Communicates research results clearly and professionally in **oral** form.
8. Demonstrate capability for independent research in the area of study and expertise in the area.
9. Demonstrate awareness of broader implications of the concluded research. Broader implications may include social, economic, technical, ethical, business, etc. aspects.

C.3. Program Progression

By the end of the first or second term students must begin the following sequence of steps for obtaining a doctoral degree.

1. Take and pass, at a PhD level, the PhD qualifying exams in statistical methods and in theory of statistics.
2. If the student is registered with the University as an MS student, then a change of degree form should be filed with the Graduate School during the quarter in which the MS degree requirement will be completed.
3. Select a major professor, based upon mutual professional interests.
4. Apply to the Graduate Committee for full admission into the doctoral program.
5. With the help of the major professor, select additional members for the Doctoral Committee.
6. Hold a program meeting to develop a program of course work that meets the requirements of the major and minor fields. File this program with the Graduate School.
7. Complete the courses described in the study program.
8. Satisfy the teaching and consulting requirements.
9. Take and pass the PhD oral preliminary examination.

10. Write a doctoral dissertation.
11. Present a Department seminar on the dissertation work.
12. Take and pass the final oral exam.

C.4. PhD Qualifying Examinations

The written MS comprehensive examinations also serve as the PhD qualifying examinations. (See Section D.)

A student who wishes to be considered for the PhD program is expected to receive a high passing score on both comprehensive exams. The default level for a PhD pass is 80%, though the faculty may decide by majority vote to lower this threshold upon review of the scores and exams. **PhD passes on both exams does not guarantee acceptance into the PhD program.**

C.5. Major Professor

The major professor directs the student in writing a doctoral thesis and serves as the student's academic advisor. A student may ask any member of the graduate faculty in the Department of Statistics to be his or her major professor. Individual professors are under no obligation to accept. For students who were in the MS program, the major professor for the PhD program is often different from the major professor for the MS program. To aid in the selection of a major professor, links to the faculty pages showing their research interests are available on the Department website.

C.6. Applying for Full Admission

To be eligible for full admission into the PhD program a student must have completed coursework equivalent to an MS degree in statistics, either at OSU or elsewhere, and must have passed the Department's PhD qualifying examinations at a PhD level (see Section C.2). A course in advanced calculus (MTH 311-12) is a required prerequisite. The student applies for full admission into the PhD program by submitting a written request to the Graduate Committee. The request must cite all relevant qualifications of the student, including degrees already completed; name of at least one member of the Statistics graduate faculty willing to serve as the major professor; any thesis, publications or technical reports the student may have written, and any other supporting material the student wants to include. The request must also include a projected timetable for taking the preliminary examinations (see Section C.8) and finishing the doctoral thesis. The decision regarding full admission is made at a meeting of the graduate faculty in the Department. In some cases, the faculty may choose to postpone making a decision until additional information is available to assess the student's potential for completing original research.

All students with a current MS obtained elsewhere and who have been provisionally accepted to PhD program may be required to take one or both comprehensive exams prior to their first year, or they may be required to take one or both MS sequences before attempting the corresponding exam. If the student takes an exam prior to their first year and does not achieve a PhD pass, they may be required to take the corresponding sequence and retake the exam the following September. The specific requirements will be decided among the Graduate Committee and the potential PhD advisor with input from the student. In any case, no more than two attempts may be made on either exam, and the student must achieve a PhD pass in order to be fully admitted to the PhD program. If the student does not achieve a PhD-level pass on either exam after two attempts, he or she will be dismissed from the program.

C.7. Doctoral Committee

The doctoral committee consists of a minimum of five members of the OSU graduate faculty, including the major professor. The committee approves the student's doctoral study program at the program meeting, examines the student at the preliminary oral examination, evaluates the student's PhD dissertation, and examines the student at the final oral examination. The committee is selected as follows. First, the student and major professor choose three committee members. If the student plans to have a minor in another department, one of these two members must be from that department; otherwise, they are both normally from the Statistics Department. After selecting these committee members, the student and major professor choose a Department representative as the fourth committee member. The fifth member of the committee is the Graduate Council representative, who is chosen by the student from a list provided by the Graduate School. If desired, the student and major professor may designate a sixth member of the committee.

After the committee is established, requests to change committee membership must be made in writing. Both the major professor and the Graduate Committee of the Statistics Department must approve the request. Reasons for such changes may include sabbatical leave of a committee member or a substantial change in the research focus of the student's dissertation.

Committee membership

i. Graduate Council Representative

A Graduate Council Representative (known as a GCR or Grad Rep) is required for all doctoral committees, all M.A.I.S. committees, and all master's degrees involving a thesis. Your GCR represents the OSU Graduate Council and ensures that all rules governing committee procedures are followed. Your GCR must be present at your formal exam(s), and will be responsible for some of the paperwork that the Graduate School requires. Per Graduate School guidelines, the GCR will also lead your committee's roundtable discussion following your final oral exam. Your GCR must be a graduate faculty member outside your major and minor area.

The GCR is a full voting member of your graduate committee. Many students select a GCRs who can also add disciplinary expertise. Select your GCR using the online GCR list generation tool (<http://gradschool.oregonstate.edu/forms#gcr>) and be sure to allow ample time for this selection process. If you run into difficulty finding a GCR to serve on your committee, you can re-generate the list until you find someone who is willing to serve.

ii. Policy on non-OSU committee membership

Your [graduate committee](#) guides your course work and research and serves as your final examining committee. It is generally expected that all committee members or approved substitutes must be present for all formal meetings with the student (e.g. final oral exams). If you have a special case in which a committee member may need to participate remotely, you and your committee must assure that all the conditions for remote participation are met.

If the faculty member is not a member of the [Graduate Faculty](#) or is not approved for the role proposed, your major department/program will need to nominate the proposed member to act in those roles using the [Nomination to Graduate Faculty form](#). Committee structure is evaluated

when your program of study is received by the Graduate School and when you schedule your formal examination(s).

C.8. Study Program

The student and his or her major professor first formulate the study program. The program is finalized by the student's Doctoral Committee at the program meeting (see Section C.7).

Required course work for a PhD in Statistics:

Class	Title	Credit Hours
ST541	Probability, Computing, and Simulation	4
ST551, 552, 553	Statistical Methods	12
ST561, 562, 563	Theory of Statistics	12
ST623	Generalized Regression Models	3
ST625	Survival Analysis	3
ST651, 652	Linear Model Theory	6
ST661, 662, 663	Advanced Theory of Statistics (Note: MTH511 is a prerequisite)	9
MTH664	Probability Theory	3
ST506	Teaching Experience	1
ST509	Consulting (2 credits each year)	
ST603	PhD thesis research	36 minimum

The total number of hours of course work should be about 120. Hours completed for an MS degree as well as the 36 or more credits of ST 603 count toward this total. The specific courses to be taken are decided at a meeting of the PhD Committee. Special circumstances may warrant exceptions; the PhD Committee must approve exceptions. A maximum of 15 hours of blanket-numbered (with middle digit 0, other than 503 or 603) courses may be used.

MTH 512 and MTH 665 are also recommended. Note that MTH 312 and 341 are prerequisites for MTH 511. In developing a schedule for taking doctoral course work, students should pay careful attention to the timing of the Linear Model Theory sequence, which is offered in Winter and Spring of even-numbered years, and the Advanced Theory of Statistics sequence, which is offered in Winter, Spring, and Fall of odd-numbered years.

C.9. Program of Study

A doctoral student must file a study program with the Graduate School at least six weeks prior to the preliminary oral exam. The student's Doctoral Committee must approve the study program. After a program has been approved, it is typed on a form available on the Graduate School's website. The form is then signed by all members of the committee and filed in the Graduate School Office. Please check the Graduate School website for appropriate deadlines at: gradschool.oregonstate.edu/success/deadlines.

C.10. Preliminary Examination

The oral preliminary examination is normally taken in the first quarter after completion of all the courses in the student's study program. The purpose of the preliminary exam is to determine the student's understanding of the field of statistics (and the minor field, if applicable), and to assess the student's

capability for research. The preliminary exam must be scheduled with the Graduate School at least two weeks in advance.

A written research proposal must be submitted to the committee no later than two weeks before the preliminary exam. The proposal should be 15 to 20 pages (including tables and figures), and should include background material on the research area, a literature review, a description of the specific problem(s) of interest, and a discussion of planned approaches to the problem. The proposal should be double-spaced, 12 point font, with one inch margins. The student's advisor will provide guidance and feedback during the development of the proposal and will help determine when the student is ready to schedule the preliminary exam.

The preliminary exam consists of an oral presentation of the research plan, not to exceed 30 minutes, followed by questioning. The questioning will have two parts: questions about specific details of the proposed research, and questions exploring the student's knowledge of statistics (and the minor field, if applicable). The latter questions will focus on the core courses in methods and theory and any other courses that are especially relevant to the student's proposed research. The Graduate School requires that no more than one-half of the (typically) two-hour exam period be devoted to specific aspects of the research proposal.

After the questioning is complete, the committee will discuss the student's performance. The performance in the questioning will be used to evaluate the student's understanding of statistics (and the minor field, if applicable). The written and oral presentation of the proposed research plan and the responses to specific questions about the proposal will be used to judge the student's capability for research. By passing the preliminary examination, the student advances to the position of candidate for the degree of Doctor of Philosophy.

C.11. Thesis

The thesis must be a real contribution to knowledge, give evidence of originality and ability in independent investigation, show a mastery of the literature of the subject, and be written in readable form. A candidate whose research is substantially complete is expected to present a seminar to the Department. The student must provide a copy of the final version to the Statistics Department office.

C.12. Final Examination

The examiners at a student's final oral examination consist of the candidate's doctoral committee and any additional members, including professors from other institutions, whom the major Department may appoint. The final examination is typically two hours long and is primarily a defense of the thesis. It normally begins with a 30 to 40 minute presentation of the thesis results. As given in the graduate catalog: "the thesis defense portion of the final oral exam is open to all interested persons. After the open portion of the exam, the examining committee should exclude all other persons and continue with the examination of the candidate's knowledge of his or her field and evaluates the candidate's performance." At the end of the examination period, the committee votes on whether or not to pass the candidate. The candidate passes the examination provided there is no more than one negative vote.

The final examination may be taken over a final draft of the thesis (instead of the final form) if this is agreeable to the committee. The candidate distributes copies of the thesis to all the members of his or her committee and arranges with them a date and time for the examination. **The examination must be**

scheduled with the Graduate School office and a copy of the thesis must be submitted there and to the committee at least two weeks prior to the final examination.

Within six weeks of the final oral examination, two unbound final copies of the thesis must be turned in to the Graduate School office, and one copy turned into the Statistics Department office.

C.13. Li Award

The Jerome C. Li award is a monetary prize given to the top PhD student who has passed the preliminary examination. The winner is determined by faculty vote and the award is announced in the spring.

D. MS COMPREHENSIVE/PHD QUALIFYING EXAMINATIONS

The MS comprehensive examinations, which also serve as the PhD qualifying examinations, are given every year usually in the week before the start of fall term. Only students enrolled in the Statistics MS program or those who have applied to the Statistics MS or PhD program are permitted to take the MS Comprehensive exams.

D.1. Form and Content

Examinations are given in two subject areas: statistical methods and theory of statistics. The examination in each subject area is written, closed book, and four hours long. The Department's Examination Committee supervises the construction, administration, and grading of the examinations.

One or more members of the committee are in charge of the development of each exam. That person or persons then solicits questions from members of the graduate faculty. The solicited questions (with solutions) are collected for review. When necessary (for purposes of clarification, elimination of duplication, etc.) revisions are sought. Revised questions are received, and the revised exam is reviewed. This process is continued until a satisfactory exam is completed. At this time, the entire faculty meets to review and discuss the individual exams.

It is the policy of the examination committee that questions are solicited from the entire faculty. As a consequence, it is not necessarily the case that each professor who taught one of the courses covered by an examination is required to prepare a question related to that course.

The material on an exam is primarily that covered in the corresponding sequence, but is not limited to the content of the texts used therein. Because the exam is comprehensive in nature, and is intended to examine the students' understanding of the subject matter in its entirety, questions related to the basic material covered by the sequence but not directly covered in the sequence are legitimate. In addition, because of the dual role of the exams (also serving as PhD qualifiers) it is possible that one or more questions or parts of individual questions will go into issues beyond those covered in the basic sequences.

To assist students in preparing for the exams, lists of the possible topics for the exams have been prepared. Citations to relevant literature are included for each listed topic. The lists are available in the Department Library. Copies of past exams are also available in binders in the Department Library.

D.2. Scheduling

All students seeking an MS or PhD in statistics are required to take and pass both comprehensive/qualifying examinations. Each examination should be taken at the first opportunity following completion of the appropriate course work for students in the master's program; this is usually within one year after entering the Department. For students entering the PhD program with a master's degree in statistics from another school, this is usually during their first September in the Department (see Section C.4).

Dates for the fall exams are typically just before classes in the fall term. Information about the exact scheduling of the exams is usually available late in the Spring prior to the exams.

Statistical tables will be provided along with the exams. Students must use a simple calculator that must be checked out from the Statistics office no sooner than one week before the first exam.

Prior to each exam, students taking that exam will be assigned numbers with which to label their responses. Throughout the grading and review of the responses, the students' names will not appear on the responses. That is, faculty graders will not know the students' identities associated with the numbered responses.

D.3. Grades

After the exams are administered, the students' responses are given back to the person who wrote the question. This person then grades the question. After this, the graded responses are given to another member of the faculty for review. Each question is worth 20 points. The graders assign a numerical score to the solution. After the two faculty graders for each question agree on the grading, a meeting of the entire faculty is called. Here, the complete scores to each exam are presented and the exam grades are determined after discussion by the faculty. The grade categories for each exam are MS Pass, PhD Pass, and Fail. The default passing levels are 60% for the MS Pass and 80% for the PhD Pass, though the faculty may decide by majority vote to lower these thresholds upon review of the scores and exams. Achieving a PhD pass does not guarantee acceptance into the PhD program. See Section C.4 for instructions for applying for full admission to the PhD program.

Students wishing to review their graded responses must schedule an appointment with their advisor or major professor, who will retrieve the student's exam from the Department office. Upon reviewing his or her exam, if a student would like clarification on a grade, and the point of contention cannot be resolved to the student's satisfaction by the advisor/major professor (or the advisor/major professor is unable to address the issue), the student should then present a written request signed by the advisor/major professor to the Exam Committee. The request must indicate the specific parts needing clarification.

D.4. Retaking examinations

If a student does not obtain the desired grade on the first attempt at an examination, he or she is permitted a second attempt, subject to the following conditions:

1. At most, two examinations may be attempted in a single area.
2. Examinations must be taken at the first opportunity.

Students who pass at the MS level on their first attempt are allowed a second attempt to achieve a PhD pass. Students must petition the Exam Committee to request a second exam attempt (see Section D.5).

D.5. Requests for special examinations

In some circumstances, a special examination may be arranged at a time other than the regularly scheduled time in the fall. Such an examination is tailored to the individual situation and may be written or oral or both. To request such an exam, a written petition, signed by the student and his or her major professor, is submitted to the Department's Examination Committee. Presentable reasons for such a request (none of which guarantee automatic approval) include:

1. Failure to achieve the desired grade on an examination. (A petition based on this reason must be made before the end of the term in which the failure occurred.)
2. An unusual study program. (A request based on this reason must be made at the beginning of the program.)
3. Unusual personal circumstances.

D.6. Two Failures

Students failing either exam on their second attempt will be dismissed from the program.

D.7. Appeals

A student may appeal the decision to be dismissed from the program. Appeals will be handled according to Graduate School guidelines for grievances outlined at: gradschool.oregonstate.edu/success/grievance-procedures. Appeals should be in writing. The order of appeal will be: (1) Major professor, (2) Department chair, (3) Graduate dean, (4) Provost.

A student must discuss the grievance with his or her advisor or with the Director of Graduate Studies within 60 calendar days from the time the graduate student knew or should have known of the facts giving rise to the alleged grievance. At the level of Department administrator, or above, the grievance or appeal must be submitted in writing. The responsible administrator at each step below the graduate dean is required to respond in writing to the grievant within 15 calendar days from the time the grievance was received. The Graduate School Dean shall respond within 30 calendar days, including review and reporting by a Graduate Council committee. Any appeal on the part of the grievant to the next step in the grievance procedure must be made within 15 calendar days from the time the grievant was informed of the action at the prior step.

If at any step of the grievance procedure the University fails to issue a response within the times specified, the grievance shall be considered denied. The grievant may file the grievance at the next step. If the grievant fails to file the grievance at the subsequent step within the time specified, the grievance will be considered withdrawn and cannot be resubmitted.

The indicated time limits are provided to assure speedy response to a grievance. However, the time period may be waived by mutual consent of the graduate student and the administrator.

E. OTHER REQUIREMENTS

E.1. Teaching

All students seeking a PhD degree in the Department must satisfy a Department teaching requirement. The purpose of the requirement is for the student to gain some teaching experience in statistics. The student, with help from his or her advisor, should decide on the best quarter and method to fulfill the teaching requirement. Possibilities include teaching a lab for a statistics class, lecturing in a statistics class, or taking a class or workshop through the Center for Teaching and Learning.

E.2. Consulting Practicum

All students (including those progressing toward a PhD) are required to take 2 credit hours of statistical consulting, ST 509, in every academic year after having completed the methods sequence (ST 551-2-3 or its equivalent). Prior to obtaining consulting experience in ST 509, students are required to take at least 1 unit of ST 507A (attendance). A student in the master's program would typically take ST 507A during the first year and ST509 in their second year. ST 507A involves attending the consulting practicum presentations and thereby getting exposure to consulting problems and strategies prior to doing actual consulting work in ST509. Students are encouraged to get additional exposure by attending more than once a year. If a student feels there is a reason that he or she should be exempted from the consulting requirement for a particular year, then a written request for exemption should be submitted to the Department Chair during fall quarter of that year.

E.3. Research Seminar

The Department offers a series of research seminars presented by faculty, advanced graduate students, and visiting speakers throughout the academic year. The seminars are normally held every Monday at 1600 (4:00pm). To obtain credit for regular attendance at these seminars, a student may register for one credit hour of work 507R. **All students in the Department are expected to attend these seminars, whether registered or not.**

E.4. Minimum Registration Requirement

Any student using University facilities or faculty time (including the taking of a preliminary or final exam) during a particular quarter must register for at least three hours during that quarter (summer term is included in this requirement). A student on financial support (GRA/GTA) during a particular quarter must register for at least 12 hours during that quarter with at least 3 courses related to their program (see Section G.11). In general these classes should not be blanket-numbered (zero as middle digit) classes. There are a few regular exceptions to this policy, including, but not limited to, PhD students who have completed their coursework.

When a student is doing research or writing a thesis, then thesis hours or “research in lieu of thesis” hours may be used in place of one or more of the 3-class minimum. The student and the major professor should determine the number of classes and the number of thesis hours.

A student involved in a statistics project with a faculty member may, with the approval of the faculty member, register for project/research hours in place of one or more of the required courses. ST 509 (2 hours) may not be used in place of one of the non-blanket courses.

All other exceptions require approval by the student's advisor and either the Department chair or the Graduate Committee.

E.5. Grades

A grade-point average of at least 3.00 is required for all courses taken as a graduate student and for courses included in the graduate program. Grades below C are not accepted for graduate credit.

F. SATISFACTORY PROGRESS

A student is expected to make satisfactory progress toward a degree. A student whose progress is unsatisfactory may be dismissed from the program.

F.1. Satisfactory Progress for the MS in Statistics:

1. Maintain a cumulative GPA in graduate course work of 3.0 or higher by the end of the first year of study. Notice that the Graduate School policy is "A grade-point average of 3.00 is required before the final oral or written exam may be undertaken."
2. Pass the appropriate MS comprehensive exams (a student is given a maximum of two attempts per exam) at the earliest available opportunity after completing the first-year theory and methods sequences.
3. Pass the MS oral examination on the first or second attempt and in a timely manner after completion of MS course work.
4. Complete the MS requirements in a reasonable length of time.
5. Meets OSU Graduate School established deadlines.

F.2. Satisfactory Progress for the PhD in Statistics:

1. Achieve full admission to the PhD program within an acceptable length of time after completing coursework equivalent to a master's degree in Statistics. The maximum acceptable length of time is normally considered to be four quarters in residence, not including Summer Term.
2. Maintain a cumulative GPA in graduate coursework of 3.0 or higher after 3 quarters of PhD study.
3. Take the PhD preliminary exam within an acceptable length of time (normally considered to be 2 quarters) after completing the study program.
4. Pass the PhD preliminary exam (a student is given one or two more attempts at the discretion of his/her committee).
5. Complete the PhD thesis and pass the PhD final oral exam within a reasonable length of time after passing the preliminary exam (a student is given a maximum of two attempts to pass the final oral exam).

F.3. Annual Review of Student Progress

A student's progress is continually monitored. A special review of a student may be conducted at the discretion of the Graduate Committee.

F.4. Dismissal

If the Graduate Committee and the Department chair determine that a student's progress is not satisfactory, the student will be notified and given the opportunity to submit a written explanation to the Graduate Committee concerning any special circumstances that he or she would like to be considered. The Graduate Committee reviews the case and takes its recommendation to the Department's faculty, which makes the final decision on whether or not to dismiss the student from the program. A student who has been dismissed from the Department may continue to take courses only if he or she is accepted in another department or program or if the Graduate School grants the status of special student.

G. FINANCIAL ASSISTANTSHIPS

The Department has a number of teaching and research assistantships available for graduate students. The primary selection criteria for appointments to and renewals of assistantships are academic performance and aptitude for carrying out the duties of the assistantship. An appointment to an assistantship is specified to be at a particular FTE (Full-Time Equivalent) level, a particular salary rate, and is further specified to be either annual or quarterly. (See Sections G.2 and G.3). Typical FTE levels are from .20 to .45.

G.1. Collective Bargaining Agreement

As of July 2000, a Collective Bargaining Agreement between Oregon State University and the Coalition of Graduate Employees, American Federation of Teachers, Local 6069 covers most Graduate Teaching Assistants and Graduate Research Assistants at Oregon State University.

At present, all GTA's and GRA's in the Department of Statistics are covered under the provisions of the Collective Bargaining Agreement. The agreement specifies a minimum full-time equivalent monthly salary rate and limits the number of hours an employee may be required to work over the period of an academic quarter. The agreement also specifies that employees will be evaluated on at least an annual basis. *This evaluation refers only to the work performed by the GTA/GRA and is not an evaluation of the employee's academic performance.*

G.2. Annual Appointments

Annual appointments are generally determined in spring for the following year. Students who are expected to be enrolled as full-time graduate students for three quarters in the following year are eligible for an annual appointment, with the following exceptions:

1. MS students on a provisional status.
2. Students fully supported by non-personal sources such as a U.S. or foreign governmental agency.
3. MS students in their second year who will finish their degree program at the end of Winter quarter.
4. PhD students who may finish their degree program in Fall or Winter quarter.

Typically, a MS student who has successfully completed his/her first year will receive re-appointment for the fall and winter terms of the following academic year.

The primary selection criterion is academic performance. Aptitude for carrying out the duties of the assistantship is also considered.

G.3. Quarterly Appointments

Quarterly appointments are awarded at the beginning of each quarter for that quarter only. The selection procedure for quarterly appointments is similar to the procedure for continuing appointments.

G.4. English Language Speaking Requirement

Graduate students whose native language is not English are required to take the internet based TOEFL (iBT) test before serving as a graduate teaching assistant. If the score is 22 or higher on the speaking section, then there are no limitations on GTA responsibilities. Students with scores 18 to 21 are expected to take further English language training and are restricted to work in courses with minimal student TA interaction. Please see gradschool.oregonstate.edu/finance/graduate-assistantships/international-graduate-teaching-assistants.

G.5. Duties

Assistantship duties typically involve teaching, consulting, or research on some project. The number of hours required varies with the type of duty but is generally about 9 hours per week of work for a .20 FTE appointment and about 18 hours per week of work for a .45 FTE appointment.

Position descriptions are available for the principal GTA assignments, listing duties and the approximate time required for them. *These are averages; exact amounts of time may depend on course enrollments, practices of the particular instructor, working speed of an individual GTA, and statistical variation.* Variation from these norms will be within contract hour limits specified by the Collective Bargaining Agreement for the appropriate support level.

G.6. Appointments

Most appointments are of the following two types:

1. Academic year GTA (Graduate Teaching Assistant)
2. Academic year GRA (Graduate Research Assistant)

In some circumstances GTA or GRA appointments may be made for one or two quarters only. A GTA/GRA on a .30 FTE appointment for a particular quarter is expected to provide an average of 12 hours of service per week during the appointment period (including finals week) with other FTE levels providing proportional levels of service. A GTA/GRA on a .45 FTE level is expected to provide an average of 18 hours of service per week for each week during the appointment period with other FTE levels providing proportional levels of service.

Students should be aware that their GTA or GRA appointment with the Department may restrict their ability to work for remuneration in any other capacity at the University (at the same time they are funded by the Department). A student with questions about this should speak with the Director of Graduate Studies before accepting any other form of employment within the University.

The Department teaches summer classes and may hire students for summer hourly appointments to support classes. Please alert the Director of Graduate Studies by April 30 if you have an interest in a summer position. Typically, students are employed up to 20 hours/week. If a student has another position with OSU, the Director of Graduate Studies must be informed. Students may not work more than 40 hours for OSU in any week during the summer. No overtime will be paid by the Department.

G.7. Tuition and Fees

In addition to providing a monthly salary, an assistantship pays tuition, and provides remission of 90% of fees. Fees not covered by this remission must be paid by the student.

G.8. Continuation of Appointments

In addition to making satisfactory academic progress, students on a GTA or GRA appointment are required to have satisfactory job performance evaluations from instructor supervisors in order to be continued on an appointment. GTAs are expected to perform all tasks outlined by the instructor and to communicate in a timely manner with the instructor. This includes attendance at all office hours, instructor meetings, and timely grading of assignments. Instructors will discuss poor performance with the GTA. If instructors have continued concerns with GTA performance, the instructor will complete a GTA Performance Form and send to the Head, Director of Graduate Studies, and advisor. The GTA will meet with their advisor to discuss strategies to improve their performance as a GTA. If another report is submitted, the Director of Graduate Studies will meet with the GTA to discuss the problems and inform the GTA that if another report is filed, their assistantship will not be renewed after the current contract ends.

MS students:

A student entering the MS program on an annual appointment, who is making satisfactory and timely progress, can normally expect the appointment to be continued fall and winter but not spring terms of their second year.

PhD students:

A student on an annual appointment seeking a PhD, who is making satisfactory and timely progress, would generally not receive continued support for more than four calendar years following admission to the PhD program.

Indications of timely progress include:

1. Enrolling in the PhD sequences at the earliest opportunity, students advancing into the PhD program from the Department's MS program are expected to begin the first PhD sequence during the winter quarter of their second year as an MS student and the second PhD sequence during their third year. Students who enter the Department with a comparable MS degree would be expected to enroll in the two PhD sequences during their first 2 years in the program.
2. Completing the PhD preliminary examination within two quarters after finishing the two PhD sequences.

The Graduate Committee will conduct a periodic review of graduate students. Students on an annual appointment who are not making satisfactory and timely progress, or who are not performing their GTA/GRA duties in a satisfactory manner, may have their appointment reduced or terminated. (See section F of the graduate student guidebook for a discussion of unsatisfactory progress, but note that the time limits for funding are necessarily shorter than the broad time limits in place for completion of the program without financial support.) A quarterly appointment does not carry any implication of continuation beyond the quarter in which it is awarded.

G.9. Textbooks for Teaching Assistants

Teaching assistants will be provided with textbooks and solutions manuals (if applicable) for the courses they are assisting. These should be checked out (and checked in at the end of the term) at the Statistics Department Office. Textbooks must be returned by the end of finals week each quarter.

G.10. Teaching Assistant Award

The Outstanding Graduate Teaching Assistant Award is a monetary prize given to an outstanding graduate teaching assistant. The award is presented every Fall, and the winner is determined by a faculty vote. Eligible students are those who served as a teaching assistant during the previous academic year.

G.11. Minimum Enrollment Requirements

Graduate students on research or teaching assistantships must enroll and maintain enrollment for a minimum of 12 graduate credit hours each term. Audit registrations and course withdrawals may not be used to satisfy this 12-credit minimum. Graduate students appointed during summer session are usually paid as hourly employees and do not register for classes. The Statistics Department expects graduate students on assistantship during the regular academic year to take three “real” (i.e., three credit) classes as part of this 12-credit minimum. This may include any non-blanket courses (those without a zero as the middle digit) and only the following blanket courses: ST 501, ST 503, ST 505 (supervised), ST 601, and ST 603. The Director of Graduate Studies must approve any waivers of this policy.

H. OTHER PROCEDURES

H.1. Before the Start of Fall Term:

All students:

- Obtain your office assignment, after-hour work permit and key request from the Department office. (See Sections J.3 and L.2)
- Meet with your advisor to plan your schedule of courses for the coming year.
- Attend the Graduate School's orientation meeting—for the 2020-21 academic year this is the week of September 14.
- Attend the Department's orientation research seminar. Important announcements about the coming year may be made. A good opportunity for new students, returning students and faculty to meet one another.

New students:

- Fill out an information sheet for the Department office.
- Sign up in the Department office to have your picture taken for the Department's files.
- Introduce yourself to your advisor and to the Director of Graduate Studies.

Returning students:

- Fill out new information sheet for the Department office with changes of address, phone number or personal contact info for the Department office.

Students on assistantship:

- U.S. students should provide the office with SS card and driver's license.
- International students should provide the office with SS card, visa, I-94 and passport.
- Check your mailbox for your work assignment.
- Take mandatory FERPA training 1 hr. course (information provided during orientation).

H.2. Each Quarter

Check with your advisor before registering for the next quarter. If you are on an assistantship, check your email for your work assignment at the start of each quarter, and plan to meet with your supervisor for information on expectations and scheduling.

H.3. Before Leaving the Department for the "Real" World:

- Return books to the University Library.
- Return check out question sheet to office.
- Return keys to the key shop.
- Pay any fines or fees at the University Business Office, otherwise you may not receive your degree!
- Leave your forwarding address for mail.
- If a thesis was written, a final copy must be turned in to the Statistics Department Office.
- Return Department copies of textbook and solutions manuals used for teaching assistant duties.
- Clean your office!

- Schedule an exit interview with the Department Chair.
- Join the Statistics Department LinkedIn group, if you haven't already done so.
- SAY GOOD-BYE TO EVERYONE!

I. ORGANIZATION OF THE DEPARTMENT

I.1. Administration and Committees

The Department Chair administers the Department of Statistics, an administrative unit of both the College of Science and the College of Agricultural Sciences. The Director of Graduate Studies administers matters pertaining to graduate students. The Department Chair and Director of Graduate Studies are assisted in administrative matters by a number of committees, as described below. The composition of the Department committees is announced at the beginning of each fall term. Several of the committees have student representatives selected from members of OSSSO (see Section I.2).

The department's committees and their main duties are:

- Graduate Committee (4 faculty): student admissions, reviews and petitions.
- Curriculum Committee (3-5 faculty): course offerings and content.
- Examination Committee: (3-4 faculty): preparation, administration, and grading of MS comprehensive and PhD qualifying examinations.
- Promotion and Tenure Committee (all full and associate professors): promotion of faculty members.
- Computer Committee (1-3 faculty, 1 student): acquisition of computer hardware and software and computer usage policy.
- Library Committee (1-3 faculty, 1 student): acquisition of new books for the Department library.
- Safety Committee (1 faculty): administration of safety-related obligations.
- Space Committee (1 faculty): Department facilities.

I.2. Oregon State Statistics Student Organization

In 1969 the Department's graduate students formed the Oregon State Statistics Student Organization (OSSSO). Its primary objectives are:

- To promote professional growth
- To promote communication between students and faculty in the Department
- To serve as an official voice of the Department's students

To further these objectives, members of OSSSO participate in committees such as the Computer and Library Committees. The philosophy underlying these faculty-student committees, and OSSSO itself, is that decisions concerning student interests can best be made with knowledge of student opinion. All students in the Department are encouraged to join OSSSO, but membership is not mandatory.

I.3. Faculty

Professors:

- **Virginia Lesser**, DrPh in Biostatistics, University of North Carolina, 1992; Sampling methodology, and environmental statistics.
- **Javier Rojo**, PhD in Statistics, University of California, Berkeley, 1984; Survival analysis, partial orders of distribution functions, extreme value theory and tail-heaviness of distribution, Nonparametric function estimation, Statistical decision theory, Random matrices, and Dimension reduction.
- **Lan Xue**, PhD in Statistics, Michigan State University, East Lansing, 2005; Non-parametrics and semi-parametrics modeling, variable selection for high-dimensional data, Nonlinear time series analysis, Survival analysis and Analysis of longitudinal data.

Associate Professors:

- **Yanming Di**, PhD in Statistics, University of Washington, Seattle, WA 2009; Statistical genetics and genomics.
- **Sarah Emerson**, PhD in Statistics, Stanford University, Stanford, CA, 2009; Non-parametric and semi-parametric statistics, and biostatistics.
- **Claudio Fuentes**, PhD in Statistics, University of Florida, Gainesville, FL, 2011; Clustering and Classification problems, Post-selection inference, Bayesian Methods and Applied Statistics.
- **Lisa Ganio (Statistics Department Head)**, PhD in Statistics, Oregon State University, Corvallis, OR, 1989; Biometrics, quantitative ecology, and study design.
- **Yuan Jiang**, PhD in Statistics, University of Wisconsin-Madison, Madison, WI, 2008; Data integration, high-dimensional data, statistical genetics/genomics.
- **Lisa Madsen**, PhD in Statistics, Cornell University, Ithaca, NY, 2004; Spatial statistics, dependent data, and statistical computing.
- **Debashis Mondal**, PhD in Statistics, University of Washington, Seattle, WA, 2007; Spatial statistics, MCMC, and time series.
- **Thomas Sharpton**, PhD in Microbiology, Designated emphasis in computational biology, University of California, Berkeley, CA, 2009; Biostatistics, genomics and metagenomics, data integration, big data analysis, machine learning, network informatics.

Assistant Professors:

- **Sharmodeep Bhattacharyya**, PhD in Statistics, University of California, Berkeley, CA, 2013; Statistical inference on networks, high-dimensional statistics, clustering, non-parametric and semi-parametric and semi-parametric methods, application to neuroscience and omics data.
- **Duo Jiang**, PhD in Statistics, University of Chicago, Chicago, IL, 2014; Statistical genetics and biology-related fields, mixed models and quasi-likelihood methods.
- **Katherine McLaughlin**, PhD in Statistics, University of California, Los Angeles, CA, 2016; Sampling methodology and social network analysis.
- **James Molyneux**, PhD in Statistics, University of California, Los Angeles, CA, 2018

Adjunct Professors:

- **Adam Branscum**, PhD University of California, Davis, CA, 2005, Biostatistics
- **Ping-Hung Hsieh**, PhD University of Michigan 1997, Extreme value analysis, Bayesian modeling
- **John Molitor**, PhD University of Missouri 1999
- **Mina Ossiander**, PhD University of Washington 1985, Probability theory, Stochastic processes, random fields, Gaussian process

Senior Instructor II:

- **Jeff Kollath**, MS, Oregon State University 1995.

Senior Instructors I:

- **Katie Jager**, MS in Statistics Oregon State University, Corvallis, OR, 2013
- **Juliann Moore**, MS in Statistics Oregon State University, Corvallis, OR, 2011.
- **Charlotte Wickham**, PhD in Statistics, University of California, Berkeley, CA 2011; Spatio-temporal modeling, environmental statistics.

Instructor:

- **Kelsi Espinoza**, MS in Statistics Montana State University, Bozeman, MT, 2016

Senior Research Assistant II:

- **Lydia Newton**, MAIS Oregon State University, Corvallis, OR, 1998.

Department Office Staff:

- **Valarie Thrower**, Office Manager
- **Tania Mayer**, Graduate Coordinator

Affiliate appointments:

- **E. Henry Lee**, PhD Iowa State University 1981; Nonlinear regression, stochastic time series.
- **John Van Sickle**, MS Oregon State University 1981; Environmental Statistics

Professor Emeritus/retired:

- **David S. Birks**, PhD Univ. of Washington 1969; Linear models, mathematical statistics.
- **David A. Butler**, PhD Stanford University 1975; Machine vision, applications to operations research to forestry, reliability theory and applications.
- **G. David Faulkenberry**, PhD Oklahoma State University 1965; Population sampling, survey methodology.
- **Paul Murtaugh**, PhD University of Washington 1989; Statistical ecology, generalized linear models, survival analysis, medical statistics
- **Clifford B. Pereira**, PhD Oregon State University 1985; Applications of statistics in biology, mixed linear models, design and analysis of experiments, statistical consulting.
- **Donald A. Pierce**, PhD Oklahoma State University 1965; Theory of inference, asymptotics, applied statistics, enumerative data, generalized regression models, survival data.
- **Fred L. Ramsey**, PhD Iowa State University 1964; Wildlife survey methods, biometry, statistical ecology, time series analysis, stochastic processes.
- **Kenneth E. Rowe**, PhD Iowa State University 1966; Statistical computing, design and analysis of experiments.
- **Daniel W. Schafer**, PhD University of Chicago 1982; Regression analysis, generalized linear models, measurement error regression, categorical data analysis.
- **Robert T. Smythe**, PhD Stanford University 1969; Biostatistics, stochastic processes
- **Don L. Stevens Jr.**, PhD Oregon State University 1979; Environmental statistics, sampling methodology, spatial statistics, probability.
- **David R. Thomas**, PhD Iowa State University 1965; Resampling methods, nonparametric statistics, survival distributions, tolerance interval methods.
- **N. Scott Urquhart**, PhD Colorado State University 1965; Applied linear models, statistical ecology, environmental statistics.

For more information on the faculty of the Department, see the Statistics Department website at: stat.oregonstate.edu/content/faculty-research-interests. In addition to the regular faculty, the Department frequently has visiting professors.

J. FACILITIES AND SERVICES

J.1. Library

A library of reference books and statistical journals is maintained in Weniger 231 for use by statistics graduate students and faculty. Books and journals are to be used in the library. THEY ARE NOT TO BE TAKEN TO YOUR HOME OR OFFICE. Books needed for extended use may be obtained from Valley Library by presenting a student identification card and a current fee receipt. **NO FOOD IS ALLOWED IN THE LIBRARY.**

J.2. Computing

The Department has a variety of computers available. A wide variety of general-purpose software is available for these machines, including compilers, editors, word-processors, and spreadsheets. Also available are several statistical packages, including SAS, R, MINITAB, MATLAB and MAPLE. All students are provided e-mail accounts and Internet access.

The Department's computers are connected to the University and College of Science networks and have access to University-wide resources and the Internet. Students are provided with an email account and secure file storage by the Department.

All of the Department's computing facilities are for use by faculty, staff, and statistics graduate students ONLY. The Department computer administrator will periodically inform students about computer policies. Repeated failure to comply with such policies may result in the suspension of computer privileges. Printers are to be used for school work only.

J.3. Offices and Keys

Students on annual assistantships are assigned offices at the beginning of fall quarter each year. Whenever possible, other students are also assigned offices. All students will have access to the kitchen, library, conference room, computer lab and outside door of Weniger Hall (and other buildings as needed). To obtain keys for these facilities, as well as for an office, you must obtain a key request form in the Department office and pick up keys at the Key Shop located at: 510 SW 15th Street, Corvallis.

Keys are required to be returned to the office upon check out.

J.4. Mail

Each student is assigned a mailbox located in the copy room (Weniger 233). Please check your mailbox daily. US mail is delivered once a day. Campus mail is delivered twice a day, at 9:00 a.m. and 1:30 p.m. A campus mail drop is located in the Department office (Weniger 239).

J.5. Preferred Communication

Students are required to use their OSU ONID e-mail as their means of school-related communication and are expected to check email daily as this is sometimes the only way for the Department to contact you.

J.6. Secretarial Assistance

Secretarial assistance is available to graduate students carrying out Department business. A student requiring such assistance should make arrangements through his or her major professor. Secretarial service is not provided for class work or thesis preparation.

J.7. Copying

The Department has two copy machines—one in Weniger 233 and one in Weniger 222. In general, students should use the copy machine in Weniger 222. In special circumstances (work needed for teaching assignment) the copy machine in Weniger 233 will be made available for student use.

J.8. Supplies

Department letterheads and envelopes are to be used ONLY for official business. Stationery and other office supplies for use in Department business may be obtained in the Department office and mail room.

J.9. Bulletin Boards

The bulletin board in the kitchen contains notices of general interest to members of the Department. The bulletin board directly outside the Department office is for general campus notices, seminar notices, etc. At the left end of the board are program notices of other graduate schools. Job announcements and internship opportunities are also posted here. Please do not remove these notices from the bulletin boards.

J.10. Kitchen/Break room (Weniger 229)

Only use items in the refrigerator that you brought personally. Clean up any mess you make in microwave, refrigerator, tables or counters. Cleaning must be done by the people using the area. Please take the responsibility of keeping the kitchen area clean -- wash your own cups, wipe up your own spills, don't leave personal belongings on the counters, and make coffee now and then. Also clean out the refrigerator and microwaves, if you use them.

K. SAFETY

K.1. Fire Safety

Learn the location of fire extinguishers and fire alarms in the vicinity of your work area. In case of fire, attempt to put it out if possible. Call for help if necessary. The fire alarms in the building only alert the occupants of the building; they do not notify the Fire Department. To report a fire, call the Corvallis Fire Department by dialing 9-911 on any University phone.

Fire drills are conducted periodically by the Fire Department. If the alarm in the building sounds, you are required to leave the building immediately by the nearest exit.

K.2. Health Service

The University maintains a Student Health Center. Its facilities and the regulations for their use are described in the OSU general catalog. Students requiring medical attention should report to the Health Center promptly. However, since the Health Center does not maintain a fully equipped emergency service, anyone involved in a serious accident should report to Good Samaritan Hospital, 3600 N. W. Samaritan Drive. Emergency ambulance service is available from the Corvallis Fire Department (9-911 from University phones). **All accidents, regardless of severity, must be reported to the department office.**

K.3. Accident Insurance

All persons on the University payroll (including hourly employees) are covered by Oregon Workman's Compensation Insurance. This is mandatory and a small assessment is withheld from each monthly paycheck. To receive benefits, injuries occurring on the job must be reported to the Department office within 30 days. The office has claim forms for this purpose.

Students only on fellowship stipends are not considered employees of the University and therefore are not covered by Oregon Workman's Compensation Insurance. These students, as well as those receiving funds from other sources, are urged to obtain hospitalization and accident insurance from other sources. Low cost insurance is available through the OSU Associated Students; insurance information may be obtained during registration. Health insurance is provided to graduate teaching and research assistants.

K.4. Security

Keep doors locked when offices are not in use. The Statistics Department is not responsible for loss of personal items.

L. MISCELLANEOUS

L.1. Identification Cards

Any student who enrolls for credit is entitled to a student identification card. This is used to check books out of the University Library, to gain admission to the Dixon Recreation Center, to cash checks at the OSU Book Store, and to gain admission to athletic and cultural events on campus. Identification cards are issued at the ID Center located in the Memorial Union.

L.2. After-Hours Work Permits

An after-hours work permit can be obtained in the Department office. Any student must show permit while in the building in the evenings or on weekends when requested by campus security personnel checking the building.

L.3. Professional Societies

Students are encouraged to join one or more professional societies as student members. Students who wish to join the Institute of Mathematical Statistics (IMS), the American Statistical Association (ASA), or Biometric Society (WNAS) should go to the website of the appropriate society (ask advisor if help is needed). Membership is either free or very inexpensive for students.

L.4. Student Files

A file, containing biographical information, correspondence, grades, progress reports, etc., is maintained for each student and kept in the Department office. Under the Oregon Open Records Law, a student may inspect or add to his or her file at any time.

L.5. Signatures on documents- DocuSign

OSU and our department uses DocuSign to route documents for signatures. If you need a form signed, please send the document to the statistics office (statistics.office@oregonstate.edu) including all the parties' names that need to sign. Please note, if you are expecting a DocuSign document to sign, check your spam folders, these emails sometimes are routed to spam depending on your email's set-up.

L.5. Physical Activity

The Department occasionally fields teams for intramural competition in volleyball (fall quarter), basketball (winter), slow pitch softball (spring), and soccer (spring). Your student fees entitle you the use of Dixon Recreation Center, which has facilities for racquetball, squash, basketball, weight training, table tennis, swimming, and running. Tennis courts are located near Dixon. There are swimming pools in Dixon, Langton Hall, and the Women's Building.

L.6. Recycling and Energy Conservation

There are recycling bags in the mailroom and computer lab. Turn off the lights in rooms not being occupied, and turn off power-consuming equipment when not in use. An exception to this rule is the Department's personal computers and related equipment. Any such equipment should be left on between 8 a.m. and 5 p.m. weekdays and whenever else it is expected to be used.

L.7. Other Sources of Information

More information on some of the matters covered in this guidebook may be found in the following sources:

- OSU General Catalog and Schedule of Classes: catalog.oregonstate.edu.
- OSU Statistics Home Page: stat.oregonstate.edu.

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