Department of Statistical Sciences
Graduate Student Handbook 2015-16

This handbook outlines the basic rules, regulations and procedures for graduate students in the Department of Statistical Sciences (DoSS), University of Toronto. Please note, however, that general regulations (degree regulations, details regarding fees, etc.) of the School of Graduate Studies (SGS) also apply to this Department. The SGS Calendar takes precedence over this Handbook. Graduate students of the Department are expected to familiarize themselves with both sets of regulations.

The deadlines for enrolment, submission of scholarship and fellowship applications, and dates for the completion of all academic work must be adhered to by all graduate students. Departmental policies are subject to change according to guidelines established by the SGS.

Please visit the Department’s website as well as the SGS website for more details about the program and courses offered as well as policies and procedures offered by the Department and SGS.

Department of Statistical Sciences Website: http://www.utstat.toronto.edu
School of Graduate Studies Website: http://www.sgs.utoronto.ca

KEY DEPARTMENTAL CONTACTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Office (SS)</th>
<th>Telephone</th>
<th>Email</th>
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<tr>
<td>Jamie Stafford</td>
<td>Chair</td>
<td>SS 6010</td>
<td>416-978-5709</td>
<td><a href="mailto:chair@utstat.utoronto.ca">chair@utstat.utoronto.ca</a></td>
</tr>
<tr>
<td>Pang Yao</td>
<td>Professor &amp; Interim Associate Chair, Graduate Studies</td>
<td>SS 6024A</td>
<td>416-978-4722</td>
<td><a href="mailto:fyao@utstat.utoronto.ca">fyao@utstat.utoronto.ca</a></td>
</tr>
<tr>
<td>Angela Fleury</td>
<td>Department Manager</td>
<td>SS 6027</td>
<td>416-978-4449</td>
<td><a href="mailto:angela@utstat.utoronto.ca">angela@utstat.utoronto.ca</a></td>
</tr>
<tr>
<td>Andrea Carter</td>
<td>Graduate Administrator</td>
<td>SS 6022</td>
<td>416-978-5136</td>
<td><a href="mailto:carter@utstat.utoronto.ca">carter@utstat.utoronto.ca</a></td>
</tr>
<tr>
<td>Annette Courtemanche</td>
<td>Office Assistant</td>
<td>SS 6028A</td>
<td>416-978-3452</td>
<td><a href="mailto:annette@utstat.utoronto.ca">annette@utstat.utoronto.ca</a></td>
</tr>
<tr>
<td>Gillis Aning</td>
<td>Undergraduate Administrator</td>
<td>SS 6018A</td>
<td>416-978-5041</td>
<td><a href="mailto:gillis@utstat.utoronto.ca">gillis@utstat.utoronto.ca</a></td>
</tr>
<tr>
<td>Dermot Whelan</td>
<td>System Administrator</td>
<td>SS 6013</td>
<td>416-978-5166</td>
<td><a href="mailto:wheland@utstat.utoronto.ca">wheland@utstat.utoronto.ca</a></td>
</tr>
<tr>
<td>Christine Bulguryemez</td>
<td>Assistant to Chair &amp; Financial Office Administrator</td>
<td>SS 6018B</td>
<td>416-978-3490</td>
<td><a href="mailto:christine@utstat.utoronto.ca">christine@utstat.utoronto.ca</a></td>
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ADMINISTRATIVE POLICIES AND PROCEDURES

1. PROGRAM & COURSES

Master's Program (M.Sc.)

The full-time Master’s program normally takes 2 academic sessions (from September to April) to complete and students are required to complete 4.0 full course equivalents (FCEs), i.e., the equivalent of 8 one semester courses. There is no thesis component, however, students are encouraged to take on project / research based courses if they are considering going on to a PhD.

M.Sc. program students are required to take 2.0FCEs (the equivalent of 4 one semester courses) out of the following core course selection:

- STA2101H  Methods of Applied Statistics I (0.5 FCE)
- STA2111H  Graduate Probability I (0.5 FCE)
- STA2112H  Mathematical Statistics I (0.5 FCE)
- STA2201H  Methods of Applied Statistics II (0.5 FCE)
- STA2211H  Graduate Probability II (0.5 FCE)
- STA2212H  Mathematical Statistics II (0.5 FCE)
• STA3000Y* Advanced Theory of Statistics (1.0 FCE)

*Students with a particularly strong background may, in consultation with the Associate Chair, Graduate Studies, be advised to take STA3000Y. (STA3000Y counts as two half courses since it is a year-long course.)

NOTE:
1. Those continuing on to a PhD should strongly consider taken Probability I & II and Math Stats I & II as well as complete a research project under the course code STA 4000.
2. Students who have taken the equivalent of Math Stats I & II or Applied Stats I & II in their previous degree, may be waived these requirements. In such cases, students will only be required to complete the missing components from the above list, but still must complete a total of 4.0 FCEs.

The remaining 2.0 FCEs (the equivalent of 4 one semester courses) may be selected from:
• Any graduate course offered by the Department of Statistical Sciences of 2000 level or higher
• 0.5 FCE as a reading course under the course code STA 4000HF/4000HY or 4001HF
• 0.5 FCE as a research project under the course code STA 4000HF/4000HY or 4001HF
• At most 1.0 FCEs from the collection of 6 week courses with course code STA 45## - each of these courses count as 0.25 FCEs – i.e., a maximum of 4 of these 6 week courses
• Graduate courses offered by other departments at U of T of 1000 level or higher (with approval of the Associate Chair, Graduate Studies) with enough statistical, computational, probabilistic or mathematical content.

All programs must be approved by the Associate Chair for Graduate Studies.

NOTE:
1. Students should not take courses that almost entirely duplicate material studied for a previous degree; however, it is fine to take courses that cover similar material at a substantially higher level.
2. The Associate Chair, Graduate Studies meets with all students (full-time and part-time) before final course choices are made to ensure that the courses chosen provide the best preparation for the student’s future plans.

Doctoral Program (PhD)

The PhD program consists of three fields:
1. Statistical Theory and Applications,
2. Probability, and
3. Actuarial Science and Mathematical Finance.

All fields require the following:
   i. the completion of 3.0 full course equivalents (FCEs) – the equivalent of 6 one semester courses
   ii. passing three comprehensive examinations and
   iii. completing and successfully defending a thesis constituting a significant contribution to the field of the study.

Normally, this program takes 12 academic sessions (4 years) to complete. Course work and comprehensive examinations are normally completed in the first year of study; however, students are encouraged to continue taking courses suit their interest throughout the remainder of their study. Thesis work normally begins at the end of the first academic year after completing the comprehensive examinations; though, students are highly encouraged to begin discussing ideas and topics with faculty members from the time they arrive.

Specific details on program requirements for each of the three fields are listed below.

Statistical Theory and Applications Field and Probability Field

Course Requirements:

During the first year of study, students are required to complete the following 3.0 FCEs:
• STA2111H Probability Theory I
• STA2211H Probability Theory II
• STA2101H Methods of Applied Statistics I
• STA2201H Methods of Applied Statistics II
• STA3000Y Advanced Theory of Statistics

NOTE:
1. Students should not take courses that almost entirely duplicate material studied for a previous degree; however, it is fine to take courses that cover similar material at a substantially higher level.
2. The Associate Chair, Graduate Studies meets with all students before final course choices are made to ensure that the courses chosen provide the best preparation for the student’s future plans.

Comprehensive Examination Requirements:

At the end of the first year, students must attempt the following comprehensive examinations:

a. Theoretical Statistics: based on material from
   STA3000Y  Advanced Theory of Statistics
   STA2112H  Mathematical Statistics I
   STA2212H  Mathematical Statistics II

b. Probability Theory: based on material from
   STA2111H  Probability Theory I
   STA2211H  Probability Theory II

c. Applied Statistics: based on material from
   STA2101H  Methods of Applied Statistics I
   STA2201H  Methods of Applied Statistics II

Students must pass at least one of the three examinations in their first attempt, otherwise they may be asked to withdraw from the program.

All three examinations must be passed by the end of the second year. In particular, students will receive only two opportunities to pass all comprehensive examinations. If a student fails to pass all three comprehensive examinations by the end of the second year, they may be asked to withdraw from the program.

Attaining Ph.D. Candidacy:

In order to continue further in the PhD program, students will have to meet all the requirements listed above to fulfill the recommendation for PhD Candidacy before starting their thesis.

Thesis Requirements:

Conducting original research is the most important part of doctoral work. The thesis document must constitute significant and original contribution to the field. Students must select a thesis advisor before the end of year two, and preferably have discussions with potential supervisors during year one. A thesis committee consisting of a supervisor and, if applicable, a co-supervisor, plus two other faculty members must also be selected before the end of year two.

Moreover, students must hold yearly committee meetings with the thesis committee to assess their progress. A formal report must be submitted to the Department each year beginning in year two. The completed thesis must be presented and defended within the Department of Statistical Sciences in addition to being presented and defended at the School of Graduate Studies (SGS).

Actuarial Science and Mathematical Finance Fields:

Course Requirements:

During the first year of study, students are required to complete the following 3.0 full-course equivalents (FCEs):

1. All of:
   a. STA 2111H: Probability Theory I
   b. STA 2211H: Probability Theory II, and
   c. STA 2503H: Applied Probability for Mathematical Finance

2. One of:
   a. STA 4246H: Research Topics in Mathematical Finance, or
   b. STA 2501H: Mathematical Risk Theory

3. Either:
   a. STA 3000Y: Advanced Theory of Statistics; OR
   b. Both
      i. STA 2101H: Methods of Applied Statistics I, AND
      ii. STA 2201H: Methods of Applied Statistics II
Comprehensive Examination Requirements:

At the end of the first year, students must attempt the following comprehensive examinations:

a. Probability Theory: based on material from
   - STA2111H Probability Theory I
   - STA2211H Probability Theory II

b. Actuarial Science / Mathematical Finance: based on material from
   - STA 2503 Applied Probability for Mathematical Finance, and
   - STA 4246 Research Topics in Mathematical Finance, or
   - STA 2501 Mathematical Risky Theory

c. Either Theoretical OR Applied Statistics:
   i. Theoretical Statistics: based on material from
      - STA3000Y Advanced Theory of Statistics
      - STA2112H Mathematical Statistics I
      - STA2212H Mathematical Statistics II
   ii. Applied Statistics: based on material from
      - STA2101H Methods of Applied Statistics I
      - STA2201H Methods of Applied Statistics II

Students must pass at least one of the three examinations in their first attempt, otherwise they may be asked to withdraw from the program.

All three examinations must be passed by the end of the second year. In particular, students will receive only two opportunities to pass all comprehensive examinations.

Attaining Ph.D. Candidacy:

In order to continue further in the PhD program, students will have to meet all the requirements listed above to fulfill the recommendation for PhD Candidacy before starting their thesis.

Thesis Requirements:

Conducting original research is the most important part of doctoral work. The thesis document must constitute significant and original contribution to the field. Students must select a thesis advisor before the end of year two, and preferably have discussions with potential supervisors during year one. A thesis committee consisting of a supervisor and, if applicable, a co-supervisor, plus two other faculty members must also be selected before the end of year two. Moreover, students must hold yearly committee meetings with the thesis committee to assess their progress. A formal report must be submitted to the Department each year beginning in year two. The completed thesis must be presented and defended within the Department of Statistical Sciences in addition to being presented and defended at the School of Graduate Studies (SGS).

2. APPEALS

All students have the right to appeal academic and/or procedural matters. All appeals must be directed in writing to the Undergraduate and Graduate Administrator. Matters not resolved at this level will be referred to the Department Chair and Associate Chair, Graduate Studies of the Department. Appeals rejected by the Department Chair and Associate Chair may be taken to the Associate Dean of the School of Graduate Studies. See the SGS Calendar for further information.

3. REGISTRATION

All graduate students must register with the Department at the beginning of each year for the duration of their programs.
4. BUILDING ACCESS & OFFICE KEYS

Building Access & Office Hours

The Department of Statistical Sciences is located on the 6th floor of Sidney Smith Hall at 100 St. George Street and the Departmental Office is open from Monday to Friday as follows:

- September to June: 9:00 am to 5:00 pm
- July to August: 9:00 am to 4:30 pm

Sidney Smith Hall operating hours are as follows:

- Monday to Thursday: 7:00 am to 10:30 pm
- Friday: 7:00 am to 6:00 pm
- Saturday: 10:00 am to 6:00 pm
- Sunday: 12:00 pm to 6:00 pm

For after-hours access to Sidney Smith Hall a building/tower key is required. Building/tower keys will be provided only to PhD students.

Office Keys

You will be provided with the following keys:

**PhD Students** | **Master’s Students**
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PhD key* | Master’s key*
Mailbox key | Mailbox Key
Building/tower key (upon request) |  
Carrel key(s) |  

*Note: You will be required to pay a $20.00 deposit per key issued by the department. Should you lose a key, the penalty is $115 per key. This is the cost of re-keying a lock.

Study & Resource Space

The Department has arranged for study and resource space for both Master’s and PhD students within 215 Huron Street. Please see Christine Bulguryemez for room assignment information.

5. FINANCIAL SUPPORT

All students in the Department’s full-time Master’s program and in the PhD program (years 1-4) receive the University’s guaranteed minimum financial support package. For students admitted directly into the PhD program from a Bachelor’s degree, funding is also provided for the fifth year of the program. This support consists of $15,500 per 12 month academic year plus tuition fees and, for international students, includes the fees for the University Health Insurance Program (UHIP). PhD students in their fifth year (sixth year for direct entry students) may apply for a doctoral completion award from the School of Graduate Studies, however, this dollar value of this award is limited and there is no guarantee of receiving it.

The sources of funding during the first four years can include University of Toronto Fellowships, Teaching Assistant employment, Research Assistantships (stipends or employment), Internships (Accelerate Canada Internships) and major internal and external awards, such as Connaught admission scholarships, Ontario Graduate Scholarships, NSERC Postgraduate awards, FCAR (for applicants from Quebec), etc. All new full-time graduate students are automatically considered for the internal awards (e.g. Connaught admission scholarships). All graduate students are expected to search out and apply for external awards as part of the University’s funding policy. External awards are also of benefit for the individual student on her/his Curriculum Vitae.

6. E-MAIL ACCOUNT AND COMPUTER LOGIN

All graduate students will be provided with an email account and computer login. All correspondence from the department will be sent to this email account. Once you have completed your studies in the Graduate program your e-mail account will be deactivated.
7. MAILBOXES

All graduate students will be provided with a mailbox and access key. Mailboxes are located near our main office doors at Sidney Smith Hall, on the 6th floor.

>Note: You will be required to pay a $20.00 deposit per key issued by the department. Should you lose a key, the penalty is $115 per key. This is the cost of re-keying a lock.

8. PHOTOCOPIER

Please see Annette Courtemanche at reception for a photocopy code. The photocopier is located in the mailroom, through our main office. The Department’s policy for the use of the photocopier is as follows:

- All graduate students are allotted 100 free copies. Any copies made over the 100 free copies will be charged back to the student at the end of the term at 3 cents per copy.
- For graduate students hired as Teaching Assistants, photocopies of course materials are free of charge. TAs are required to log all course material photocopies in the blue log binder. Any photocopies not logged will be charged to the student at the end of the term at 3 cents per copy.

9. STATISTICAL COMPUTING

Computing resources that are available for graduate student research include: Splus and R (data analysis and graphics language), SAS, Matlab, Mathematica and Maple (software for symbolic manipulation), and mathematical typesetting software including TeX and LaTeX. The University also maintains high-speed links to the Internet, which provides electronic mail, news, and web access to other research sites throughout the world.

10. SEMINAR SERIES

The Departmental Seminar Series is held every Thursday from 3:30 pm to 4:30 pm in Sidney Smith Hall. The seminars provide an opportunity for all department members to learn about recent developments in statistics throughout the world. Graduate students are expected to attend the seminars and are encouraged to use the opportunities presented to broaden their educational base.

- Master’s students and PhD students in their first year are expected to attend at least 60% of all weekly seminars.
- PhD students in their second-year and higher are expected to attend at least 85% of all weekly seminars.
- PhD students in Actuarial Science and Mathematical Finance are expected to attend at least 85% of Department of Statistical Sciences and Fields Seminar series in Mathematical Finance and Actuarial Science.

11. STATS AID CENTRE AND TA MARKING ROOM

The Stats Aid Centre and TA marking room are for graduate students hired as Teaching Assistants who need to hold office hours or need space for marking assignments and tests.

Stats Aid Centre

The Stats Aid Centre is located on the 1st Floor of Sidney Smith Hall in Room 1091. Teaching Assistants may use this room to hold office hours.

TA Marking Room

The TA Marking Room is located on the ground floor of Sidney Smith Hall in Room 623. Teaching Assistants may use this space for marking assignments.

12. MATHEMATICS AND STATISTICS LIBRARY

The Mathematics and Statistics Library is located in the Bahen Centre for Information Technology at 40 St. George Street, Room 6141. The library maintains an extensive collection of all major journals and research monographs.

13. TEACHING ASSISTANTSHIP (TA)

A limited number of teaching assistantships are available. Full-time students will normally be assigned TA work as part of their funding packages. TA assignments are usually from September to April, but may include May to August for PhD students. Application forms are available on the departmental website under Employment Opportunities, and should be submitted as early as possible, and definitely by the given deadline.
All TAs are provided with a copy of the department’s Teaching Assistant Handbook and will be expected to comply with the policies and procedures listed in it.

14. DEPARTMENTAL AWARDS

Statistics Doctoral Award
The Department of Statistical Sciences Doctoral Award is presented annually to a PhD student in the department who has demonstrated excellence in research in an area of statistics, probability theory, or actuarial science and mathematical finance. No application is required. All PhD students are considered. The award is made by the Associate Chair, Graduate Studies upon the advice of the department faculty. The award includes a certificate and a monetary prize from the Doctoral Award endowment fund.

Andrews Academic Achievement Award
This award is named in honour of Professor David F. Andrews of the Department of Statistical Sciences. An Andrews Academic Achievement Award will be awarded to any particularly outstanding student(s) who receive a M.Sc. degree from the department. Students are judged on criteria such as: level of difficulty of courses chosen; impression made on professors; course grades earned; any special work such as research projects, statistical consulting, etc.; as well as contributions made to other students and the department. No application is required. All graduating M.Sc. students are considered. Certificates are awarded by the Associate Chair, Graduate Studies upon the advice of the department faculty.

Teaching Assistant Award
The Department of Statistical Sciences Teaching Assistant Award reflects the importance that the Department places on undergraduate teaching and the importance of the acquisition of good teaching skills as part of graduate student training. The award is presented annually to three graduate students who have either lectured in a course or lead a tutorial throughout at least one term. The criterion for the award is the quality of the TA’s work measured by student evaluations and faculty input.

Student Travel Award
The Department of Statistical Sciences Student Travel Award is available to all enrolled graduate students. This Award is intended to enable students to present their work, papers & publications and/or participate in a poster session at a conference and/or workshop. Funding and details of how to apply will be announced by the Associate Chair, Graduate Studies. The School of Graduate Studies also offers an award intended for students who are presenting their research for the first time at a conference.
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<th>Service</th>
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<tr>
<td>Academic Success Centre</td>
<td><a href="http://www.asc.utoronto.ca/">http://www.asc.utoronto.ca/</a> 416-978-7970</td>
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<td>Awards for PhD Students</td>
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<td><a href="http://www.uoftbookstore.com">http://www.uoftbookstore.com</a> 416-640-7900</td>
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<td>Campus Police (Emergency: 978-2222)</td>
<td><a href="http://www.campuspolice.utoronto.ca">http://www.campuspolice.utoronto.ca</a> 416-978-2323</td>
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<td>Centre for International Experience</td>
<td><a href="http://cie.utoronto.ca/">http://cie.utoronto.ca/</a> 416-978-2564</td>
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<td>Community Safety Office</td>
<td><a href="http://www.communitysafety.utoronto.ca">http://www.communitysafety.utoronto.ca</a> 416-978-1485</td>
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<td>Counseling and Psychological Services (CAPS)</td>
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<td><a href="http://www.utgsu.ca">http://www.utgsu.ca</a> 416-978-2391</td>
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<td><a href="http://www.mitacs.ca">http://www.mitacs.ca</a> 647-478.5904</td>
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