TABLE OF CONTENTS

1. Introduction 5
   • Purpose and Philosophy of the Graduate Programs 5
   • Vision and Mission of the PhD/MS Programs in Statistics 5
   • Mathematical Prerequisites 5
   • Master of Science Program 6
   • Doctorate of Philosophy Program 7
2. PhD Dissertation 10
3. Recruitment of PhD Students 13
4. Excellence in Research by PhD Students 15
5. Building a Research Portfolio 17
6. Building a Strong Teaching Portfolio 21
7. Progress Review and Evaluation 23

APPENDIX
1. Doctoral Advisory Committee 24
2. Dissertation Examining Committee 25
3. Program Administration 26
4. Statistics Department Faculty 27
5. Additional Student Resources 28
6. Graduate Teaching and Research Assistantships 29
7. Guidelines for International PhD Students 31
8. Statistics Journal Lists 33
9. University Resources 34
10. Academic Integrity 36
11. Temple University Policy and Procedures for Instructors 38
12. Statistics Course Listing 40
13. PhD/STAT Annual Evaluation Forms 43
A Message from the Statistics Department Chair

It gives me great pleasure to introduce the *Official Statistics Student Handbook: A Guide to Student Development for an MS and PhD in Statistics* to help students and faculty learn about the MS and PhD Programs in Statistics at the Fox School of Business at Temple University.

The Statistics Graduate Programs at the Fox School seeks to enhance the research profile and overall reputation of the Statistics Department at the Fox School by creating outstanding MS and PhD graduates to become leaders in the advancement of statistical theory and practice. Our mission is to recruit, train, and mentor high-quality MS and PhD students in a supporting research environment with the aid of our faculty toward generating and publishing ground-breaking research in premier publication outlets. Distinct from the Fox School’s PhD concentrations in Business Administration, the MS and PhD in Statistics prepare students to pursue original research in academia, industry, and government. The department has sixteen full-time faculty members whose research interests span the discipline, including biostatistics, Bayesian/Empirical Bayesian statistics, causal inference, data mining, experimental design, genetics, high dimensional statistics, law, marketing, micro arrays, multiple hypothesis testing, statistical decision theory, statistical applications in finance, statistical computing and graphics, and time series analysis.

Rigorous training and personalized attention are hallmarks of the MS and PhD programs at the Fox School, and our faculty are committed to educating future scholars to become leaders in statistics research. Receiving a graduate education at the Fox School is a demanding and challenging experience that requires a great deal of personal discipline, intensive work, and individual commitment. We expect all students to immerse themselves into the rigorous research environment of the Fox School and push the frontiers of statistics research for years to come.

The MS and PhD programs in Statistics will instill students with the foundations necessary to understand new statistical theories and methodological tools as they are developed. Students will be provided with the ability to conduct original research investigations that will make substantial contribution to the science of statistics, and be given the opportunity to work closely with statistics faculty in a collaborative research environment to tackle cutting-edge disciplinary and interdisciplinary research problems to enhance the reputation of the Statistics Department. As the relationships and interactions of Statistics as a discipline with other fields is crucial, interdisciplinary collaborative research is encouraged both within and outside the Fox School.

I trust the *Official Statistics Student Handbook* guide will assist students and faculty to learn the procedures, guidelines, and rules of the MS and PhD Programs in Statistics at the Fox School and assist them in pursuing their ambitious research programs that advance the school’s vision and mission.

Best,

Dr. Sanat K. Sarkar
Department Chair, Statistics
fox.temple.edu/drsarkar
1. Introduction

This handbook contains relevant and current information regarding both the MS and PhD programs in Statistics as of September 2015. The goal of this handbook is to keep the current and prospective students informed of the program requirements consistent with the rules, policies and procedures of the Fox School of Business and Temple University’s Graduate School. In any instance of an apparent conflict, the Graduate School's policies will take precedence over the contents herein.

The Graduate Affairs Committee (GAC) of the Statistics Department is responsible for updating the Graduate Programs in Statistics and administering the policies and procedures of the Graduate Programs. Please consult the Director of the Graduate Programs in Statistics for any aspects of the programs described or not addressed here. In unusual circumstances and for compelling reasons, the GAC may grant or recommend exceptions to the rules and regulations stated in this Handbook while maintaining the integrity of the program.

PURPOSE AND PHILOSOPHY OF THE GRADUATE PROGRAMS

The general purpose of the Graduate Programs in Statistics is to educate broadly-based statisticians in the theories and methods of statistics towards successful applications of statistical tools to immediate and specific problems which arise in virtually every area of societal and scientific endeavors. Admitted students will pursue a graduate study balanced appropriately between theory and methods. They are expected to gain experience in the application of statistics through research assistantships, statistical consulting, applications-oriented courses, and/or through outside employment/internship.

The objectives, goals, and general philosophy stated here will apply differently in manner and extent to both the MS and PhD programs. In both programs, the Statistics Department will maintain the highest standards of academic and professional excellence.

VISION OF THE MS/PHD PROGRAM IN STATISTICS

The vision of the MS/PhD Program in Statistics is to enhance the research profile and overall reputation of the Statistics Department at the Fox School of Business by developing outstanding graduates to become leaders in the field of statistics.

MISSION OF THE MS/PHD PROGRAM IN STATISTICS

The mission of the MS/PhD program in Statistics is to recruit, educate, train, and mentor talented students in a supportive environment with the aid of Statistics faculty to generate ground-breaking research, and place them in peer or aspirant academic institutions, prestigious research groups in industries around the globe, and governmental agencies.

MATHEMATICAL PREREQUISITES

The Graduate Programs in Statistics requires students to be equipped with a certain degree of competence in mathematics and statistical computing to successfully pursue the requirements of statistical theory, methods, and research. At least three (3) calculus courses from an undergraduate curriculum and a course in linear algebra are required prior to entering the PhD program. For the MS program, at least two (2) calculus courses are required prior to entering, with an additional third course in calculus and a course in linear algebra recommended.
MASTER OF SCIENCE (MS) PROGRAM

The primary objective of the Master of Science (MS) in Statistics program is to educate broadly-based statisticians with a solid understanding in the fundamentals of statistical theory and applications for jobs in business, government, or academic settings. The degree requires completion of ten (10) graduate courses (30 credit hours) at 8000 level or above in Statistics with a minimum 3.0 GPA.

Once admitted, students may apply to transfer of up to six (6) semester credit hours (2 courses) prior graduate courses equivalent in contents to those of the Statistics Department courses. In all cases, at least twenty-four (24) semester hours of graduate-level courses must be completed at Temple, including required core courses. The core requirements may be met in one of the following two ways:

1. Stat 8001 and Stat 8003 in fall followed by Stat 8002 and Stat 8004 in spring. Or,

2. Stat 8112 (Statistical Theory for Business Research) and Stat 8003 in fall followed by Stat 8101 (Stochastic Processes) and Stat 8004 in spring.

Option 1 is designed for students with a strong mathematical background and is recommended for students with a possible interest in pursuing a PhD in the future. Option 2 places more emphasis on methods and applications and is recommended for students who wish to pursue a career as an applied statistician.

All electives should be from the Statistics department’s list of recommended courses, found in Appendix 12. With approval of the Director of the Graduate Programs, no more than two (2) graduate courses from other disciplines having statistical contents in them may count as electives.

To remain in good standing, students must maintain a cumulative GPA of at least 3.0 without having more than two (2) grades below B- or more than one (1) failing grade F.

The MS degree does not require a thesis, foreign language, or a comprehensive exam. Students are advised to attend the department seminars and local chapter meetings of the American Statistical Association.
DOCTOR OF PHILOSOPHY (PhD) PROGRAM

The PhD program prepares students to pursue original research and scholarship in the field of statistics in academia, industry, and/or government settings.

Students entering the PhD program will be expected to gain the following:

- Thorough knowledge of research methodology and its applications
- Foundation to understand new statistical theory tools as they are being developed
- Capability for undertaking original research, which should make a substantial contribution to the science of statistics
- Ability to communicate statistical knowledge effectively
- Ability to interact and apply statistical knowledge in other fields

General Requirements

Students in the PhD program are required to complete a minimum of forty-eight (48) semester hours of graduate course work beyond the Bachelor’s degree or a minimum of eighteen (18) semester hours beyond the Master’s degree from Temple University. These courses include the four (4) required core courses STAT 8001, 8002, 8003, and 8004.

The first year fulltime PhD students are expected to take four courses for the first two semesters.

All students are required to take the Screening Exam in the summer immediately following the completion of STAT 8001-8004. Please note, full time students are required to complete these core courses during their first year and take the Screening Exam in the summer between their first and second years. Having passed the Screening Exam, students will continue to meet course requirements and simultaneously explore research interests to pursue for their dissertation.

A distinguishing characteristic of the Fox School’s PhD program in Statistics is the requirement of publishing a paper (or papers) based on dissertation research. To meet this requirement, students must pass the Proposal (Preliminary) Exam. The Proposal Exam requires a well-defined research problem for the dissertation, and approval of the student’s Doctoral Advisory Committee (DAC). Upon passing the Proposal Exam, students are expected to complete the proposed research for their dissertation before defending it for their doctoral degree.

Required course work is not rigidly packaged to meet the minimum requirement of forty-eight (48) credit hours. In addition to the four (4) core courses (Stat 8001-8004), the advanced theory sequence (Stat 9001 and Stat 9002) and at least two more Stat 9000 level courses are required. The minimum requirement of forty-eight (48) credit hours does not include dissertation credits. Students may also be advised to enroll in advanced topics seminars (Stat 9180 and Stat 9190) and in directed study. For a full listing of approved statistics courses, please refer to Appendix 12.

Elective courses from other disciplines may count, but only with approval from the Director of the Graduate Programs. Courses numbered 9000 or above from outside of the Statistics department may not be recognized as advanced 9000 level courses. Equivalent elective courses from other institutions may be transferred within the limit set forth by the Statistics department and Graduate School policies at a maximum of six (6) courses (18 credit hours).

Department Seminar Attendance

Students in the PhD program are expected to attend regularly held departmental seminars. Attendance in these seminars will be recorded. Students in violation of this policy may be deemed as making insufficient progress within the program, could be prevented from taking the Proposal or Defense of their Dissertation Exams, or dismissed from the program entirely.

Screening Exam

The Screening Exam is offered annually in June. Students are required to take the Screening Exam immediately after completing the required core courses (Stat 8001 – 8004). All full-time students will take the exam at the end of their first academic year. In rare cases, students with an MS in Statistics, who received waiver from the four (4) core courses, must take the Screening Exam in June prior to starting the program.

The Screening Exam is graded pass or fail. Students are only allowed two opportunities to take the Screening Exam; those who fail the exam in the first attempt can only retake it in the following year. Students who fail to pass the Screening Exam
in this time frame will be dismissed from the PhD Program with an option to earn the MS degree, after having met the program requirements.

The purpose of the Screening Exam is:

- To advise students if they should continue in the PhD Program
- To allow only those who passed the Screening Exam to enroll in the advanced theory sequence (Stat 9001 and Stat 9002)
- To advise students who passed the Screening Exam to begin their search for a research problem and a faculty advisor for guidance to meet the requirements of the Proposal Exam and of the PhD dissertation

Questions in the Screening Exam will range over the topics covered in the four (4) core courses.

Probability: probability axioms, marginal, joint and conditional probabilities, Bayes’ theorem, random variables, marginal, joint and conditional distribution functions, expectation, moment generating function, Chebyshev’s theorem, Jensen inequality

Common Probability distributions: binomial, Poisson, hyper geometric, geometric, uniform, normal, exponential, Weibull, beta, gamma, multinomial, multivariate normal, conditional normal, covariance matrix, distributions of functions of random variables

Sampling Distributions: chi-square, F, and t distributions resulting from normally distributed random samples, distribution of order Statistics

Asymptotics: convergence in probability, convergence in distribution, weak laws of large numbers, the central limit theorem, delta method

Estimation: unbiasedness, minimum variance, Cramer-Rao bound, sufficiency, completeness, Rao-Blackwell theorem, maximum likelihood, least squares, interval estimation, loss function, Bayes’ estimation

Hypothesis Testing: uniformly most powerful test, Neyman-Pearson lemma, likelihood ratio test, Wald and score test, union-intersection and intersection-union principles, goodness of fit test, testing in contingency tables

Regression Analysis of Variance: dummy variables, screening of independent variables, multicollinearity, residuals, outliers and influential observations, crossed and nested factors, interactions, variance components, multifactors analysis, mixed effects models

Logistic regression, Contingency table tests, Linear Models

Proposal (Preliminary) Exam

After passing the Screening Exam, students should begin to find a dissertation topic and an advisor from the Department of Statistics. If not before, students are expected to have a dissertation advisor from the Statistics Department faculty by the time they have completed the advanced theory sequence. In consultation with their dissertation advisor and the Director of the Statistics Graduate Programs, each student will form a Doctoral Advisory Committee (DAC) consisting of faculty members from within and possibly outside of the Statistics Department in accordance with the Graduate School guidelines. For more information on DAC eligibility requirements, refer to Appendix 1. The DAC will ensure timely progress and quality of the student’s research to satisfy the dissertation requirements.

Should a student decide to change his/her dissertation advisor or the Doctoral Advisory Committee, the Director of the Statistics Graduate Programs should be contacted for approval in order to ensure the protection of academic rights of all involved parties. Formal authority in the doctoral program resides with the Associate Dean of Research.

The purpose of the Proposal (Preliminary) Exam is for a student to demonstrate that he/she is prepared to complete a dissertation by showing a general breadth of statistical knowledge and deep understanding of particular area(s) of statistics, demonstrating the ability to conduct rigorous statistical research and presenting a proposed plan of novel dissertation research. A student may take the doctoral Proposal (Preliminary) Examination, in whole or in part, no more than twice. A student who fails all or part of the Proposal (Preliminary) Examination twice will be dismissed from the program.

A majority of the Doctoral Advisory Committee must approve the outcome of the Proposal (Preliminary) Exam. It will be examined fairly and in a manner that prohibits any one faculty member from determining whether a student passes or fails.
Proposal (Preliminary) Examination Time Limits
To ensure currency, a doctoral student who has not successfully defended the dissertation within five (5) years of passing the Proposal Examination may be required to retake and pass that examination to remain in good Academic Standing. When the five-year limit is reached, the student will be notified by the Statistics Department if they must retake and pass the Proposal Examination within one semester. Failure to retake and pass the Proposal Examination within one semester results in dismissal by the Statistics department, in accordance with the Graduate School guidelines.

The steps leading to the Proposal (Preliminary) Exam are as follows:

- Student will submit a draft of the proposal to their DAC to seek its approval, which should be completed within two weeks.
- Utilizing the committee’s comments, students submit a revised draft to their DAC and GAC at least three (3) weeks before scheduling the exam date.
- In attendance at the Proposal (Preliminary) Exam will be all members of the student’s DAC and a representative of the GAC, who may or may not be a member of the DAC. The exam will be open to all Statistics faculty and PhD students, and an email announcement must be sent to all members of the Statistics department. The date of the Proposal Exam will be set in consultation with all DAC members and the GAC.
- The student must notify the Associate Dean of Research thirty (30) days before the date of the Proposal Exam and provide the Doctoral Programs Office with a copy of the proposal.
- The student must place a hard copy of the proposal in the Statistics department Reading Room at least three (3) weeks prior to the exam date.
- Students need to complete the Proposal Examination Report (Form GS-11per) at the time of the Proposal Examination.
- If they pass, students will file an approved Dissertation Proposal along with the Dissertation Proposal Transmittal Form (Form GS-11dpt) to the Doctoral Programs Office.
- If a student should fail the Proposal (Preliminary) Exam the first time, they will be given another opportunity to pass and must register for Stat 9998 during the next semester.
- Students must prepare a paper from their dissertation proposal prior to the Proposal Exam. The GAC strongly recommends that each student to submit this paper to a refereed journal having incorporated the DAC’s inputs and critiques.

Elevation to Candidacy
A doctoral student is elevated to candidacy upon completion of all coursework and examination requirements (including foreign language or other proficiency examinations) for the degree after filing an approved dissertation proposal along with the Dissertation Proposal Transmittal Form to the Graduate School. A doctoral student must satisfy the residency requirements as set forth by the Graduate School by remaining enrolled in Stat 9999 (Dissertation Research).
2. PhD Dissertation

At the time of their dissertation defense, students must have at least one manuscript from their dissertation submitted for publication in a refereed professional journal. The manuscript and the full dissertation drafts should be made available to the Dissertation Examining Committee (DEC) members and the GAC.

Dissertation Research

A doctoral candidate must register each fall and spring semester, and in the semester in which the oral examination is held, for course number STAT 9999, “Dissertation Research.” If the oral examination is held in the summer session, the student must register for STAT 9999 in the summer session but will not be required to register in the fall if the 30-day deadline for making final revisions extends into the fall. A doctoral student must complete a minimum of 2 semester hours of course number STAT 9999, “Dissertation Research,” after elevation to candidacy.

Defense of Doctoral Dissertation

A doctoral candidate must register for classes during each semester including the semester in which the dissertation defense will be held. The Graduate School requires to have a minimum of six (6) semester hours with at least two (2) of them from course number Stat 9999. At least four (4) of the remaining semester hours can be a combination of the following course numbers: Stat 9994, Stat 9998, and/or Stat 9999.

In order for defense preparation, a doctoral dissertation must:

- Meet the standards for original research or other creative work in the field
- Uphold the ethics and standards governing research or creative work in statistics
- Demonstrate mastery of the research methodology and subject matter
- Demonstrate an understanding of the contribution of the body of knowledge to statistics and other disciplines involved
- Meet the standard of writing and presentation expected in any academic or scholarly publication or production, including grammar, spelling, formatting, and general readability

A candidate, whose dissertation fulfills the standards of scholarship and the commitments made in the proposal, and any modifications made to it as specified above, is entitled to an oral defense of the dissertation.

Dissertation Defense Guidelines:

1. The doctoral candidate will submit a final draft to their DEC. The DEC will have three (3) weeks to approve or disapprove the draft and suggest modifications.

2. Taking the DEC’s comments into account, students will revise the draft for distribution to the DEC and to the GAC at least three (3) weeks before scheduling the date for defense.

3. Students should submit a revised dissertation to the Doctoral Programs Office at least thirty (30) days prior to their final dissertation defense.

4. In attendance at the defense must be all members of the DEC and a representative of the GAC, who may or may not be a member of the DEC. Student research is a pivotal component to the identity of the Statistics department and is open to all Statistics faculty and students. The date and time of the defense must be set in consultation with all concerned parties and an electronic announcement sent to all Statistics faculty and PhD students.

5. A hard copy of the dissertation should be placed in the Statistics Department Reading Room at least three (3) weeks prior to the final dissertation defense.

6. At the time of defense, the student must have at least one (1) paper formally prepared from the dissertation research for submission to a journal if it has not been submitted already. This is to ensure that at least a portion of the dissertation is publishable in a refereed journal.

7. The candidate must submit an official signed notice to the DEC and the Doctoral Programs Office at least ten (10) working days before the scheduled defense of dissertation for approval from the Associate Dean of Research. This form will be forwarded by the Doctoral Programs Office to the Graduate School after approval. A
defense cannot be held without written confirmation of approval and the receipt of the defense paper work from the DEC and the Doctoral Programs Office.

Oral Defense (Final Examination)

To be eligible to publicize the Oral Defense (Final Examination), the candidate must have:

- An approved Dissertation Examining Committee (DEC). For more information on DEC eligibility requirements, refer to Appendix 2.
- Distributed a complete copy of the final dissertation to all members of the DEC.
- Identified the chair or the person responsible for the DEC in accordance with the policies of the Statistics Department, the Fox School, and the Graduate School.

The announcement of the oral defense must be posted publicly. An email should be sent to all Fox faculty and PhD students alerting them to the date and time of the dissertation defense. Any member of the Graduate Faculty has the right to request a copy of the dissertation from the Doctoral Programs Office at the Fox School in advance of the defense and may participate in the defense.

If a person other than Statistics faculty and PhD students, members of the DEC, or members of the Graduate Faculty wishes to be present at the oral defense as a guest, the chair of the DEC is responsible for determining the appropriateness of the request and for making the final decision.

All members of the DEC must be physically present for the defense, except in the case of an emergency. In the rare case that a member of the DEC cannot be present, a notice must be sent to the Office of Doctoral Programs to give prior written approval for no more than one member to be absent. The Doctoral Programs Office will alert the Graduate School to the approved exception. The PhD candidate and the chairs of the Doctoral Advisory and Examining Committee must, however, all be physically present for a valid defense. A member of the DEC whose absence has been approved by the Graduate School must still participate in the defense through some means (e.g., telephone, video-conference, written comments, and/or questions to be asked by another member), except in the case of a sudden, serious emergency.

The DEC evaluates both the dissertation and a candidate’s performance in the oral examination to determine whether or not the candidate passes. Only officially recognized members of a DEC have the authority to determine whether or not the candidate passes the final defense.

Revisions Following the Oral Defense

Doctoral candidates who pass the oral defense may be required to make revisions to the dissertation as a condition of completing the degree. The chair of the DEC is typically responsible for reviewing and approving revisions, although any member of the DEC may require the candidate to submit a final draft for approval. The final revised dissertation must be submitted to the Graduate School within 30 calendar days of the oral defense or the defense is nullified and another oral defense must be scheduled.

If a DEC member requires substantial revisions that cannot be made within 30 calendar days, the committee must suspend the defense until a majority agrees that the dissertation is sufficiently revised to be defensible. A candidate must repost the oral defense with the Graduate School. The chair of the DEC is responsible for notifying the Graduate School that a defense was suspended.

Dissertation Format

A dissertation must be completed in a format approved by the Graduate School and the Fox School. Approved formats are listed in the Graduate School’s Dissertation and Thesis Handbook.

Authorship and Prior Publication

A doctoral dissertation may have only one author. A candidate’s previously published work may be included in the dissertation if the work meets the following criteria:

- The research was conducted by the candidate while a doctoral student at Temple University
- It has not been used to meet the requirements for another degree
- It is not co-authored, unless the role of the candidate was clearly defined in the co-authored work
- It is logically connected with and integrated into the dissertation
- By its inclusion, it does not violate any existing copyright or contractual agreement

Co-authored works that do not meet the criteria above may be included as appendices if they include the names of all authors and the contribution of the candidate is stated.

**Filing Dissertations**
The Dissertation and Thesis Handbook details requirements for filing the final dissertation with the Graduate School.

**Final Authority over Doctoral Dissertation**
The Graduate School and the Graduate Board have the authority to review and approve all doctoral dissertations prior to awarding the degree.
3. Recruitment of PhD Students

Identifying Talented PhD Students
Identifying and attracting talented students in the MS and PhD programs in the Statistics department at the Fox School is an essential investment toward building a world-class graduate program. The recruiting process requires close coordination between the Director of the Graduate Programs, internal Institutes/Centers, and current MS and PhD students in the Statistics Department. The Director of the Graduate Programs is strongly encouraged to include research-active faculty in the recruiting process, particularly for identifying and interviewing applicants. Faculty should also strive to identify talented prospective PhD students from around the world who could become ideal PhD students, and they should work closely with the Director of the Graduate Programs to attract such talented candidates. Finally, current Statistics PhD students should assist in the recruitment process and encourage talented prospective students to apply to the PhD program as part of the overall goal to bring top talent to the Statistics PhD program at the Fox School.

The Interviewing Process
The process begins with a review of requirements for PhD applicants. The Director of the Graduate Programs is encouraged to work with the faculty and the Chair of the Statistics Department to identify a short-list of promising candidates from the pool of all applicants and begin the interviewing process. Similar to faculty recruiting, all potential PhD students must be interviewed by the Director of the Graduate Programs, at least electronically, and it is highly recommended that other faculty also interview promising PhD applicants. In order to recruit the best PhD students possible, it is imperative to consider more than the formal application and paper credentials to understand the applicant’s complete picture, including their English proficiency, strong communication skills, adequate academic preparation, and potential fit with faculty research. If possible, PhD applicants should also be interviewed in person with a campus visit.

Electronic Interviewing - It is first recommended to conduct electronic interviews via teleconferencing or videoconferencing. WebEx (www.webex.com) and Skype (www.skype.com) are available for free. All PhD candidates must be interviewed by at least one faculty member in the Statistics Department before an admission request is made to the Associate Dean of Research. The Director of the Graduate Program is encouraged to interview all candidates or consult with the faculty who interviewed the candidates. Faculty who travel internationally are encouraged to interview promising PhD applicants in person.

Campus Interviewing – Applicants who have successfully gone through electronic interviews and who have been specifically targeted for recruitment are encouraged to be invited to campus for a face-to-face interview. Campus interviews provide the opportunity for prospective PhD students to meet the faculty and current PhD students. Campus interviews give information to faculty to make more informed admission decisions. They also increase the likelihood of a positive recruitment of strong applicants.

There may be a need for outstanding PhD applicants to travel from outside the US for a campus interview. Strong justification must be provided along with a cost estimate, and approval must come from the Associate Dean of Doctoral Programs at the Fox School.

The Director of the Graduate Programs is encouraged to include research-active faculty in the recruiting process, and all faculty are encouraged to participate in the interviewing process, both in terms of interviewing candidates electronically and also meeting them in person during campus interviews. Once the interviewing process is completed, all faculty who have met with the candidate will be given the opportunity to offer feedback to the Department Chair and the Associate Dean of Research.

The Decision Process
The Associate Dean of Research makes the final decision whether to admit an applicant and makes an offer of financial assistantship according to the applicant’s fit with the strategic direction of the PhD program in Statistics and the resources available in the recruitment cycle.

Financial Support
Select full-time PhD students may be offered financial assistantship in the form of full tuition remission and a competitive stipend in return for offering services as a Teaching Assistant (TA) or Research Assistant (RA). The biannual renewal of this stipend is based on adequate progress. Students who apply before the January 15 deadline will also be considered for Temple’s prestigious university fellowships.
The level of support is based on the applicant’s qualifications and competitive considerations. The Director of the Graduate Programs will work with the Statistics Department and the Associate Dean of Research to offer competitive levels of support to ensure that highly qualified PhD applicants accept our offers and join the PhD program.

MS students and Part-time Statistics PhD are not considered for tuition remission or eligible for competitive stipends.
4. Excellence in Research by PhD Students

The Statistics PhD program at the Fox School of Business is committed to educating, training, and mentoring PhD students to generate and disseminate high-quality research that seeks to advance statistics theory and practice. Research is one of the most important parts of a PhD student’s academic life, and students are strongly encouraged to actively engage in high-profile research projects. Students should thus strive for research excellence, independent thinking, and innovative ideas. PhD students should pursue an influential research agenda that contributes to knowledge creation, focus on their personal growth as academic researchers, and disseminate their findings in top-tier statistics journals.

Besides leading their own research agendas and developing expertise in a particular research area, PhD students are expected to actively engage with faculty and other PhD students in discussions and networking, providing support to others, and promoting the Fox School of Business’ culture of research collaboration. PhD students are also expected to be familiar with areas of research outside but related to their area of expertise. Students should try to look outside their focus area to develop expertise in interdisciplinary lines of research. Understanding how one’s research area fits within the broader academic spectrum, and how each discipline of research can relate to other disciplines is a sign of a true academic scholar. PhD students are encouraged to obtain a broad appreciation interdisciplinary study and research work.

Engaging in the Research Process
When students begin the Statistics PhD program, they should be actively engaged in their research process. An understanding of the basic foundations is a prerequisite for high-quality research, and students are strongly encouraged to formally and informally master these foundations and build appreciation for the value of scholarship. Being engaged in the research process goes beyond coursework, and includes research discussions with faculty and other PhD students, attending research seminars, and being immersed into the research environment of the Fox School of Business. PhD students must also identify important research questions and apply appropriate theory, methods, and data to come up with relevant answers. Students should enhance their written and oral communication skills in order to present and defend their research to different audiences, describe their hypotheses, findings, and implications, and prepare manuscripts for publication in conference proceedings and journals. During their time in the Statistics PhD Program, a student should spend a great amount of personal effort and commitment to conduct research of publishable quality.

Research Seminars
The Statistics Department at the Fox School of Business organizes research seminars on a regular basis, and students should be aware of all relevant research seminars. All students are required to attend and participate in these research seminars, and are also encouraged to attend other school wide research seminars in their area of interest. Participation in these research seminars is crucial in exposing students to the many facets of research in a given concentration, as well as providing students with the opportunity to meet visiting scholars. Students are required to attend and actively participate in department research seminars by asking meaningful questions, challenging assumptions in a respectful manner, and offering judicious and helpful suggestions.

Internal Student Presentations
In preparing for an academic career it is very important that students seek the opportunity to present their research to peers. PhD students must develop and demonstrate strong oral communication skills, and should be able to effectively present and convey their research to diverse audiences. The department strongly encourages all PhD students to present their research, both in the form of discussing new research ideas and presenting their research findings. While weekly Statistics seminars provide a forum for more advanced PhD students to present their completed research, frequent school-wide events may be organized for 1st and 2nd year students to present their research ideas.

The Doctoral Program Office hosts annual and bi-annual research forums for PhD students to present their research work. Additional types of school-wide forums are organized in consultation with all academic areas to provide to all PhD students at different years in the program the opportunity to present their research work. Besides allowing students to showcase their research and receive feedback from faculty, these forums could be used to provide support for promising research ideas by PhD students.
Conference Presentations

The Statistics Department strongly encourages presentation of research by PhD students at prestigious regional, national, or international research conferences. The opportunity to present their research output at academic conferences gives PhD students valuable experience and feedback on their research and increases the likelihood of publication of such research in scholarly journals. Presenting and participating in such conferences also allows PhD students the opportunity to network and develop professional relationships that are vital for collaborative research and improving the reputation of each student and the reputation of the department.

Academic conferences are generally announced at least one (1) year in advance and deadlines for submission of abstracts and papers for consideration are generally six to nine months prior to the conference date. PhD students should become aware of the major conferences for the general field, such as the Joint Statistical Meetings (JSM), as well as conferences that are important to the student’s particular area of statistical research. PhD students are encouraged, with the guidance of their mentor, to identify appropriate regional, national, and international academic conferences and submit their research for publication in conference proceedings and presentation during the conference. PhD students must consult with their mentors to ensure the quality of their submission.

The department encourages PhD students who plan to present at major academic conferences the opportunity to have a “mock” presentation at a department or area seminar. Faculty and PhD students should attend these presentations and offer feedback for improvement. Delivering an outstanding presentation at a conference is very important to enhance the student's reputation, and proper preparation is very critical.

To maximize the value of attending conferences, PhD students should be very active in networking with faculty and PhD students from other universities by participating in relevant conference events. Networking is an important element of both a successful academic career and job placement. PhD students are strongly encouraged to actively participate in social events and networking opportunities, and should seek to interact with key researchers in their field of study. Students should be ready to describe their research projects and overall research agenda when interacting with other researchers at conferences.

Travel Support to Present at Academic Conferences

Travel support is available to PhD students who will be presenting their research findings at reputable regional, national, and international conferences and research meetings. Travel support is conditional on budget availability, and all PhD student travel must go through an authorization process. As soon as notification of paper acceptance is received, PhD students should complete the travel authorization request forms, including authorization for out-of-state travel or other policies that the Fox School has in effect at the time of the travel request. The necessary forms are available on the Fox School of Business Blackboard Page for PhD Students. PhD students are also responsible for submitting proper documents for purpose of reimbursement and must follow Temple University’s travel policies. This policy does not constitute a promise of funding; it merely lays out the conditions necessary to be considered for funding. Eligibility conditions for travel to conferences are provided on the Blackboard system under “PhD Student Policy on Travel Funding for Presentation of Research at Conferences.”
5. Building a Strong Research Portfolio

All PhD students must become involved in the research process early on in their PhD program. They should start building a research portfolio that includes their research areas, philosophy of their research, and the relevance of the research for theory and practice. These research portfolios should include publications in the proceedings of refereed conferences, presentations in regional, national, and international conferences, and published articles in refereed journals.

Each student should have a Research Portfolio that is formally maintained by the Doctoral Programs Office, and it should be updated diligently with any new research accomplishment. Each PhD student should also maintain a private record in the form of a Curriculum Vitae (CV) that includes all major research accomplishments. Having a high-quality research portfolio is necessary to attain a faculty position at a prestigious research university.

To facilitate the process of building a research portfolio, the PhD program encourages all students to author or co-author at least one (1) research paper that can be submitted to a top statistics journal at the time of the Proposal (Preliminary) Exam.

Becoming a Member of the Broader Academic Community

PhD students must recognize that they are important members of the academic community of the Fox School of Business, Temple University, and the broader community of scholars in the Statistics discipline. They must become familiar with the broader academic community related to their field of study. PhD students should consult with the Director of the Graduate Programs and their advisor in order to become a member of the appropriate communities.

Peer reviewing is an integral part of the academic community. In departmental seminars and core theory courses, PhD students must learn proper reviewing procedures and etiquette. They should also seek opportunities to gain experience in peer reviewing to prepare themselves to act as reviewers for conferences or journals. Many Statistics faculty members serve as editors, associated editors, or reviewers for journals. PhD students will be encouraged to engage early on to identify potential reviewing assignments and gain practical exposure to peer reviewing.

Recognizing Research Achievement by PhD Students

Research is the most important part of a student’s overall performance within the PhD program. Similar to faculty, PhD students are expected to contribute to the research reputation of the Statistics Department, Fox School, and Temple University. Accordingly, PhD students are expected to initiate, actively engage, and undertake research projects with faculty and/or other PhD students. Successful progression in the PhD program is highly contingent upon evidence of excellent research, including oral research presentations, high-quality research papers, submission and acceptance of papers at refereed conferences and conference presentations, and journal submissions and acceptances at major academic journals.

The research performance of PhD students follows the same standards for research instituted by the Fox School of Business, and PhD students should have clear guidance of PhD program’s expectations. Excellence in research is closely tied to publications, specifically the quality of the conference proceedings and journals where students publish. The Fox School has engaged in an elaborate process to benchmark and define research excellence, and faculty committees within the school have identified a school-wide set of journals categorized according to their quality, as summarized below. As an integral part of the Fox School, PhD students should also adhere to these journals in terms of achieving excellence in research.

Benchmarks of Excellence in Research

The journal quality standards have been set forth by the Journal Vetting Committee (JVC), and the full list of journals by category is documented in Appendix 8. Publications in the following journals by PhD students will automatically carry a monetary award, as indicated below:

**Statistics A:** These journals are deemed as the top journals for publication of statistics research. PhD students who publish in these journals as primary authors (judged by the Director of the Graduate Programs in consultation with the publication’s other authors) while at the Fox School will automatically receive $3,000 as recognition of their work. PhD students who are secondary authors will receive $1,500.

**Statistics A-***: These journals are of very high quality and prestige. However, by current metrics and reputation they fall just short of the standard of the Statistics A list. PhD students who publish in the Statistics A-*** list while at the Fox School...
will automatically receive $2,000 for primary authorship and $1,000 for secondary authorship.

Statistics A-: These journals are of very high quality and prestige. However, by current metrics and reputation they fall just short of the standard of the Statistics A-* list. PhD students who publish in the Statistics A- list while at the Fox School will automatically receive $1,000 for primary authorship and $500 for secondary authorship.

Publication in these venues provides prima facie evidence of the quality of research in the Statistics Department and also the Fox School. These lists are provided to PhD students to give them clear direction as they engage in research. The gold standard of research performance is publication in these top-tier peer-reviewed journals. However, in the spirit of academic freedom, PhD students may publish in venues that advance their respective lines of research in consultation with their faculty mentors and co-authors.

The PhD program values and rewards both publications in refereed journals and in conference proceedings as indices for PhD students' research productivity. However, since there are no established lists of high-quality conferences, PhD students are strongly encouraged to consult with their mentors or co-authors to select prestigious conferences. The PhD program rewards students for their acceptances to high-quality refereed conferences by supporting their travel to these venues, as outlined earlier.

Research excellence goes beyond numbers of journal and conference proceedings publications to include recognized research awards, invitations to give research seminars at other universities, originality of the research as judged by relevant faculty, and a focused research stream. Besides, applying for and obtaining research grants and being actively involved in sponsored research is also encouraged and valued. PhD students who receive research grants bring credit to themselves and to the department, and the PhD program supports such activities.

To adhere to the vision and mission of the Statistics PhD Program, students are expected to contribute to the overall research reputation of the Statistics department through publications in premier refereed journals and conference proceedings, as outlined above. Moreover, the quality of a PhD student’s publications is extremely important to the student’s potential to receive employment in a premier research university and have a successful career in academia. Therefore, PhD students are strongly encouraged to submit their best quality research to prestigious journals as early as possible to ensure acceptances and publications in journals while still in the program.

It is the expectation of the Statistics PhD program for its students to have at least one journal acceptance (ideally in a Statistics A or A-*, but at least in a Statistics A-) while in the department.

Research Awards and Recognitions
Besides offering financial incentives for journal publications and sponsoring conference travel, the PhD program recognizes research achievements by PhD students in various forms, including awards, certificates, and other honorary mentions. School-wide research forums, which take place in the beginning of the fall semester, allow the best PhD students to present their research and also receive research awards. The PhD program also recognizes PhD students in an annual celebration event typically organized in the end of the spring semester. Furthermore, outstanding PhD students are also recognized during the Fox School’s annual Awards Ceremony together with faculty and staff.

The Statistics department annually offers three awards in recognition of outstanding achievements by PhD students.

The George Carides Memorial Award is awarded to an outstanding student in the pre-dissertation stage of the graduate program who excelled on the Screening Exam, does well in classes, and participated in department activities. The award is named in memoriam of Dr. George Carides, a distinguished alumnus of the Department, and is funded by the George Carides Memorial Fund.

The Boris Iglewicz Award is presented to graduate students who have published or had a paper accepted in an A or A-* statistics journal. The award is named in memoriam of Dr. Boris Iglewicz, Professor Emeritus and advisor of the first Statistics PhD awarded at Temple University.

The Joseph Heyse Publication Award is presented to students who have had a paper published or accepted for publication in a refereed statistics journal. The award is named in honor of Dr. Joseph Heyse, a distinguished alumnus.

The William W.S. Wei Award is presented to students who have published or had a paper accepted in the field of time
series analysis in a refereed journal. The award is named in honor of Prof. William W.S. Wei, and is funded by William W.S. Wei Scholarship

**Newsletter with PhD Students’ Accomplishments**
The Office of Research and Doctoral Programs sends a bi-monthly newsletter to all faculty, staff, PhD students, and alumni of the Fox School of Business, along with 20,000 faculty from different universities worldwide, which highlights the accomplishments of graduate faculty and PhD students, including publications, acceptances at conferences, and other noteworthy achievements. There is a Special Section of Friday Announcements dedicated to accomplishments by PhD students, and all students are strongly encouraged to publicize their research accomplishments.

**On the Verge Magazine**
The accomplishments of PhD students and their research collaborations with faculty are also usually featured in the Fox School of Business’ “On the Verge” magazine. PhD students are encouraged to inform the Doctoral Programs Office of any research accomplishments to potentially feature in the magazine.

**Research Support**
Besides faculty resources and mentorship, the PhD program at the Fox School offers valuable resources to PhD students to undertake an effective research program and publish in top journals and refereed conference proceedings. Some of these resources are summarized below:

**The Office of Research, Doctoral Programs, and Strategic Initiatives**
This office supports the PhD Program and the research agenda of the Fox School of Business in general. This office provides support to PhD students through access to databases, financial support, and information on research grants, student services, and promoting students on websites.

**Young Scholars Forum**
The Fox School of Business has established the Young Scholars Forum for junior faculty members and PhD students to propose their research ideas and obtain seed funding for their research. Junior faculty members are strongly encouraged to include PhD students in their research teams, and special funding allocation is given to PhD students. All PhD students are invited to attend the Young Scholars Forum where junior faculty and PhD students present their research ideas, and students are encouraged to take leading roles in interdisciplinary proposals with faculty and seek seed funding as part of the Young Scholars Forum to advance their research.

**Publishing Workshops**
The PhD program offers workshops with faculty who serve on journal editorial boards on how to publish in refereed journals. The Office of Research and Doctoral Programs supports departments, institutes, and centers by providing a conduit for workshop development specific to each business discipline.

**Databases & Access to Data**
The Fox School subscribes to Wharton Research Data Services, which provides faculty and students with access to several databases, including COMPSTAT, CRSP, and Audit Analytics, among others. A description of the databases available to Temple subscribers is available at the following website: Fox.temple.edu/databases

All PhD students are eligible to establish an account with WRDS. To establish a WRDS account, students should follow the menu-driven directions on the WRDS website to register an account. PhD accounts are time limited and must be renewed by the account representative. Students are only eligible up until graduation at which time the account is terminated.

**Social Science Data Library**
The Social Science Data Library is Temple University’s repository for social science data. Currently, its holdings incorporate files on virtually every subject of interest to social scientists (e.g., nineteenth century census data, health examination surveys of national samples, arrest records from the Paris Insurrection of 1848, international economic Statistics). SSDL is also a member of the Inter-university Consortium for Political and Social Research, which provides students and faculty access to thousands of other data files. SSDL staff provides limited consulting on statistical and research methodology. For
example, the staff may suggest statistical procedures appropriate to the nature of the data in a particular file, assist users in interpreting statistical results, suggest how best to organize data for analysis or presentation, or recommend appropriate software and hardware for a particular analytic problem.

**Samuel Paley Memorial Library**

The Samuel Paley Library is a major university library. The Business and Management collection accounts for approximately 12 percent of the total collection. The university is also a member of the Research Libraries Group, a consortium of 30 major United States research libraries that make their resources available to their members' faculty and students. The Paley Library also has computer search facilities for card catalogs and journal abstracts. You can access University Libraries through: library.temple.edu/

Paley provides access to numerous databases related to business research. You can find databases through the database finder functions: http://library.temple.edu/articles/dbfinder/index.jsp?subjects=10&bhcp=1

For more information, please contact the Business Librarian, Mr. Adam Shambaugh, Paley Library Room 220, 215-204-5694, adam.shambaugh@temple.edu.

Additional resources available to PhD students are also shown in Appendix 9.

**Academic Integrity: A Code of Research Ethics**

PhD students at the Fox School should adhere to a strict code of ethics, academic integrity, and the traditional principles of academic freedom. PhD students at Fox are members of the broader academic community, and they should recognize the importance of showing respect for others and maintain a strong culture of ethics, integrity, trust, and respect to the academic community, both during and after their tenure at the Fox School.

Additional details on maintaining academic integrity, avoiding plagiarism, and dealing with academic grievances are provided in Appendix 10.
Building a Strong Teaching Portfolio

Teaching is an integral part of an academic career and an essential determinant of obtaining a high-quality job placement in a premier university after graduation, and PhD students are required to have a variety of successful teaching experiences before completing their PhD degree. Valuable teaching experience can be gained both by acting as a Graduate Teaching Assistant under the guidance of a Fox faculty member, and also by teaching at the undergraduate level. Moreover, PhD students must build a solid teaching portfolio to make them competitive for academic jobs.

Teaching Requirements

PhD students may be asked to serve as Graduate Teaching Assistants anytime during their career at the Fox School. Being a Teaching Assistant (TA) exposes PhD students to teaching and allows them to work closely with an experienced instructor to offer a high-quality learning experience for undergraduate and/or graduate students. All students preparing for graduate teaching assistantships are required to complete preparatory programs offered by the University Teaching and Learning Center (temple.edu/tlc/), the Fox Center for Innovation in Teaching and Learning (fox.temple.edu/CITL), or a University Teaching Certificate Program (for Fox PhD students). Please refer to Appendix 6 for more details.

As part of the PhD degree requirements, PhD students are expected to teach a minimum of one semester-long course. In general, PhD students should not teach until successfully completing their core coursework and passing the Screening Exam. No exceptions should be made for incoming PhD students to serve as instructors in the 1st year of the program.

Besides teaching an existing undergraduate course, and on rare occasions, PhD students could submit proposals to teach special topics courses (elective) that fit their research interests. Proposals submitted should include a course motivation and a draft syllabus. These course proposals will be considered on a case-by-case basis by the Chair of the Statistics Department, and they should be approved by the Director of the Statistics Graduate Programs in consultation with the student’s PhD mentor. Approval of such elective course proposals will be made based on interest and enrollment by students following the Fox School’s teaching policies and needs.

While serving as teaching assistants or instructors, PhD students are required to demonstrate dedication and professionalism in their teaching duties. They should closely work with their faculty mentors to develop and improve course syllabi, organize and deliver effective lectures, presentations, and discussion sections, and support, evaluate, and ensure their students’ learning. PhD students are expected to be able to teach effectively, and they should develop strong communication skills to effectively organize courses, convey complex concepts and materials to different audiences, organize learning objectives, and ensure learning outcomes for students. Similar teaching guidelines and expectations for faculty specified by Temple University (Appendix 11) also apply to PhD students, and all PhD students must carefully review these guidelines prior to commencing any teaching responsibilities at the Fox School.

Developing a Solid Teaching Portfolio

The teaching portfolio normally consists of a teaching philosophy, as well as syllabi for courses developed and taught, and teaching evaluations for the courses taught from students and from faculty asked to evaluate the course. An effective teaching portfolio reflects the PhD student’s contribution to the development and instruction of a variety of courses. Each PhD student is required to initiate a teaching portfolio while serving as a graduate teaching assistant and continue to enrich the portfolio with additional courses he serves as a teaching assistant or teaches. The teaching portfolio contributes to the evolution of the student’s Curriculum Vitae.

Teaching Support

The Temple University Teaching and Learning Center (TLC) offers a wide variety of seminars throughout the course of the school year. For additional information on resources offered by the TLC, please visit the following website: temple.edu/tlc/. Appendix 11 also provides additional details on the teaching policies and regulations set forth by Temple University. PhD students must closely adhere to these policies when teaching any course at the Fox School at Temple University.

Fox Teaching in Higher Education Workshop Series

The Office of Research, Doctoral Programs, and Strategic Initiatives, in collaboration with the Fox Center for Innovation in Teaching and Learning and the Temple University Teaching and Learning Center (TLC), sponsor a Teaching in Higher Education Workshop Series for PhD students. The Teaching in Higher Education Workshop Series provides PhD students
with the opportunity to develop as teachers and thus be prepared to teach as they enter their first academic appointment. PhD students are encouraged to attend lectures and seminars offered by the TLC. As a result of the growing national focus on learning outcomes and incorporation of these expectations in accrediting standards, AACSB accredited schools of business seriously consider the ability to teach in making hiring decisions. Completion of the workshop series and subsequent teaching experience in the classroom demonstrate to universities that PhD students have acquired and practiced basic teaching skills.

The Fox Teaching in Higher Education Workshop Series was designed to promote effective teaching by doctoral students across the Fox School. In the workshop series, PhD students study general principles of teaching and learning and also focus on teaching issues in their own academic areas. Requirements for the award include completion of all 6 learning modules (Appendix 11).
7. Progress Review and Evaluation

PhD students are reviewed each year by the Director of the Graduate Programs, their PhD advisor, other PhD faculty, and the Associate Dean of Research on making satisfactory progress in the PhD program in terms of achieving excellent academic performance in their courses and exams, advancing their own research program and making progress on their dissertation, and satisfying responsibilities as teaching assistants or instructors. PhD students are also evaluated on their overall demeanor in the PhD program, including, but not limited to, actively participating in research seminars, being responsive to their research and teaching assistant responsibilities, making successful presentations of their research, and overall showing effort, commitment, and enthusiasm toward a speedy completion of their PhD degree. The annual evaluation forms are listed in Appendix 13.

Ensuring Sufficient Progress

PhD students, PhD advisors, the Director of the Graduate Programs, and the Associate Dean of Research are expected to continuously monitor and discuss the progress of PhD students throughout the academic year to ensure sufficient progress. The PhD program is an investment toward the enhancement of the Fox School’s overall reputation, and it is imperative that all involved parties ensure that all PhD students maintain excellence throughout the program.

Commitment to Research and Scholarship

The student’s commitment to research is another intangible component of the annual evaluation. This is because successful academic scholarship requires strong commitment and dedication to research. Evidence of commitment to research includes, but is not limited to, active involvement in the research culture of the Fox School, frequent research discussions with faculty and other PhD students, active participation in research seminars and research symposia, and dedication to meeting and exceeding the standards for high-quality research.

Frequent Meetings with Director of the Graduate Program and PhD Advisor

All PhD students are also expected to meet with the Director of the Graduate Programs and their PhD advisor at least once a semester to discuss their progress, review their coursework, and ensure sufficient progress in the program. It is the PhD student’s responsibility to schedule such meetings at least once a semester, and PhD advisors and the Director of the Graduate Programs should make reasonable effort to schedule meetings with PhD students.

Dismissal from the Program

It is the explicit objective of the PhD Program to give all PhD students adequate support, resources, and guidance to succeed and excel in the program. However, if a PhD student does not make sufficient progress in the program, besides failing particular milestones in the program, there are formal steps for termination of the student that must be taken, which are outlined below.

First, if students receive substandard grades (less than B-), they will receive a warning from the Graduate School. Students will be dismissed by the Graduate School after two grades below “B-“ or more than one grade of “F”. Please refer to Graduate School policy for further details.

Second, if the Director of the Graduate Programs, in consultation with the student’s PhD advisor, PhD faculty, and the Associate Dean of Research, deems that a PhD student does not make sufficient progress, a warning letter will be issued by the Director of the Graduate Programs or Associate Dean of Research clearly specifying the weaknesses and recommending specific remedial measures along with deadlines. Students who receive such warnings may be ineligible for financial assistantship, and the Director of the Graduate Programs may make a recommendation to the Associate Dean of Research to suspend the graduate assistantship. Students who are successful in addressing the stated weaknesses in the warning letter will be reinstated. However, PhD students who fail to satisfy the remedial measures are subject to dismissal. The Director of the Graduate Programs would then make a recommendation for dismissal to the Associate Dean of Research, who will make a final determination for dismissal.

Besides dismissal on the basis of lack of satisfactory progress, PhD students will be dismissed automatically when failing to have satisfactory grades, failing any of the required exams a second time, not forming a dissertation committee in the stated timeline, and failing to successfully defend a dissertation within seven (7) years.
Appendix 1. Doctoral Advisory Committee

A Doctoral Advisory Committee (DAC) must include at least three members of the Temple University Graduate Faculty, two of whom, including the chair, must be members of the candidate’s degree program or approved to serve in that capacity with the advanced written approval of the Graduate School.

A committee may be expanded to include other Temple University faculty and/or qualified experts from outside Temple University, provided that a majority of the members of the Doctoral Advisory Committee are members of the Temple University Graduate Faculty.

If the proposed additional member is not a member of the Graduate Faculty, the chair of the Doctoral Advisory Committee must request approval by submitting the Nomination for Service on Doctoral Committee Form and a current curriculum vitae to the Graduate School. Approval of the member must be received prior to the approved proposal being filed with the Graduate School.

If a change is made in the composition of the Doctoral Advisory Committee, the change must be approved by the chair of the initial committee and the dean of the school/college. The change must be noted on the Request for Change in Dissertation Committee Form and filed with the Graduate School prior to posting the final defense.

The dean of the school/college and the graduate council or other governance body define who is responsible for approving the composition of Doctoral Advisory Committees in their respective school/college.

The chair and each member of the Doctoral Advisory Committee work with the student to provide guidance to develop a proposal in which the student demonstrates broad knowledge of the field, current methods of investigation, and the ability to conduct the proposed research on a realistic timeline.

Emeritus faculty may serve on a dissertation sponsoring or examination committee provided the emeritus faculty member retains Graduate Faculty status by continuing to satisfy college/department criteria and responsibilities established for Graduate Faculty status.

Emeritus faculty may chair dissertations if: (a) the emeritus faculty member was the chair of an approved dissertation proposal submitted to the Graduate School prior to retirement and (b) the emeritus faculty member continues to satisfy college/department criteria and responsibilities established for Graduate Faculty to chair dissertations.
Appendix 2. Dissertation Examining Committee

A Dissertation Examining Committee (DEC) is responsible for evaluating the quality of the dissertation and conducting the oral defense.

A Dissertation Examining Committee must include the chair and all members of the Doctoral Advisory Committee and at least one outside examiner not previously involved with the dissertation writing or the Doctoral Advisory Committee.

The chair of the Dissertation Examining Committee must be a member of the Graduate Faculty but may not be the chair of the candidate’s Doctoral Advisory Committee. This person, responsible for coordinating the defense, must be identified when the defense is posted with the Graduate School. If the dean of the school/college and the graduate council have a written policy that calls for the chair of the Dissertation Examining Committee to be elected only when the defense is convened, the person named in the posting to the Graduate School remains responsible for filing all official forms with the school/college and Graduate School.

The outside examiner may not be a faculty member in the candidate’s degree program. The examiner must be doctorally prepared and, if s/he is from outside Temple University, must be approved by the Graduate School at least two weeks prior to the oral defense.

If the outside examiner or any other proposed member of the Dissertation Examining Committee is not a member of the Graduate Faculty, the chair of the Doctoral Advisory Committee must request approval by submitting the request form and a current curriculum vitae to the Graduate School at least four weeks in advance of the scheduled defense. Approval must be received prior to posting the oral defense.
Appendix 3.  Program Administration

The Office of Research, Doctoral Programs and Strategic Initiatives is the home for PhD student services.

Paul A. Pavlou, PhD  
Associate Dean of Research, Doctoral Programs, and Strategic Initiatives; Chief Research Officer  
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Chair, Statistics Department  
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William W.S. Wei, PhD  
Professor, Director of the Graduate Programs in Statistics  
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The Graduate School also provides student services and can be found in 501 Carnell Hall. Please check with the Fox Doctoral Programs Office before seeking assistance from the Graduate School.
Appendix 4. Statistics Department Faculty

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Appendix 5. Additional Student Resources

Statistical Consulting Center

**Director:** Dr. Pallavi Chitturi  
chitturi@temple.edu

The Center for Statistical Analysis (CSA) provides consulting and training to Temple faculty, researchers, and students and to external clients in the wider business, science, industry, and government sectors. Working with expert faculty members and Statistics doctoral students, the CSA offers integrated and comprehensive statistical analysis to conceptualize research questions, to assist in questionnaire design, review data collection methods, and to provide appropriate statistical procedures for analysis and appropriate interpretation of data for decision-making.

Center for High Dimensional Statistics

**Director:** Dr. Sanat Sarkar  
sanat@temple.edu

High-Dimensional Statistics has emerged as a new field as a result of the confluence of recent advances made in statistics in response to the urgent need for the advancement of newer and more appropriate statistical tools to analyze big data with high-dimensions. The Center will draw upon inter-disciplinary expertise from computational data sciences, computer science, mathematics, statistics, and engineering and will focus on core methodological problems including developing mathematical and statistical models for large-scale data collection, storage, processing, analysis, interpretation, and visualization. The center will engage the shared research interests and expertise of the Department of Statistics faculty to create an integrated and more vibrant place for research in a field of statistics that is critically important in big data statistical analysis. The center will have the strategic advantage to develop and expand school and university-wide collaborative big data research opportunities and will leverage current and future research funding from government agencies and industries that have supported past research.
Appendix 6. Graduate Teaching and Research Assistantships

Graduate assistantships are awarded to most incoming full time PhD students with outstanding records. These assistantships are not fellowships or scholarships, and they require that students with assistantships provide 20 hours per week of teaching and/or research support to Fox faculty. Each assistantship provides a monthly stipend over the 9-month or 12-month contract period. PhD students are provided with full tuition remission and health insurance benefits. For students on 9-month contracts, assistantships (research or teaching) may extend to the summer as well.

Each assistantship, which represents a substantial monetary expenditure and is considered an investment toward the improvement of the Fox School’s academic reputation, is renewable for four (4) years. Additional funding can be made available to students in their fifth year who are making excellent progress on their research and other duties. In order to have their graduate assistantships renewed each semester, PhD students must demonstrate their commitment to their professional growth through excellent academic performance and dedication to performing their assigned graduate assistant duties. Assistantships will only be renewed if there is sufficient progress in the program and if the PhD student’s performance warrants renewal based on the student’s annual evaluation.

Students who are on assistantships are required to complete employment forms, such as:

- Acknowledgement of Confidential Information Policy
- Form W-4 Employee’s Withholding Allowance Certificate
- Temple University Tax Compliance Notification Sheet (non-US citizens)

You must complete the forms in the PhD program office and please bring with you proper identification as listed on the Form I-9 instruction sheet Lists of Acceptable Documents. All first year, newly hired assistantships must comply. All forms must be completed in person along with proper identification. No copies of identification will be accepted. No exceptions will be made.

**Tuition Remission** - PhD students with assistantships receive 100% tuition remission during the academic year.

**How to use tuition remission:**
Bring a copy of your award letter, along with a completed Graduate Student Tuition Remission form, to the Doctoral Programs office – Lisa Fitch, Associate Director for Doctoral Programs (Forms are located online at www.temple.edu/bursar and in the PhD Program office). The forms will be reviewed and, upon approval, the forms will be sent to the bursar’s office. You may pick up a copy from the PhD programs office upon request. If you have any questions about your assistantship, please contact Ms. Lisa Fitch.

**Assistantships and Tuition Remission in Years 5 and Beyond**
Graduate assistantships are renewed for up to 4 years. In Year 5, you may be asked to teach courses. You will then be eligible for a Graduate Teaching Assistantship proportionate to the number of courses you teach per term. Two courses per term constitute a fulltime assistantship with commensurate fulltime benefits. One course per term constitutes half time, and benefits are proportionate.

**Health Insurance**
For PhD students on full-time appointment for the entire academic year, Temple University will contribute the premium required to pay for a 12-month Keystone Point of Service plan. For students holding less than a full-time appointment or an appointment for less than an entire academic year, Temple’s contribution will be prorated accordingly. Current insurance plan options and rates can be found on the Human Resources website at www.temple.edu/hr/students.

If the amount contributed by Temple is not sufficient to fully pay the premiums for the plan a PhD student select, the student is responsible for any difference in premium. PhD Students will receive a bill from Independence Blue Cross for this differential and will be responsible for submitting payment directly to Independence Blue Cross. Temple’s obligation to contribute is conditioned upon maintaining a current award status. Failing to maintain a current award status will reduce Temple’s contribution pro rata for that period of time.

PhD students may enroll in a healthcare plan online through the Independence Blue Cross website at www.ibx.com/temple_students during the designated open enrollment period. After accepting the award and completing...
all employment procedures, the subsidy will be credited. For further assistance and questions about health benefits, please contact a Student Benefits Specialist at 215-204-1321.

Continuous Enrollment
The PhD program requires continuous full-time status that includes at least three courses (9 credits) during the fall and spring semesters of the first two years while in the program. Subsequent to completion of coursework, PhD students must be enrolled in STAT 9994 (proposal (preliminary) examination preparation), STAT 9998 (pre-dissertation research), or STAT 9999 (dissertation research) each semester.

Maximum Number of Courses
Students must take a minimum of 3 (or 4 to accelerate) courses each semester. Students may take four courses per semester and consequently complete all coursework in two academic years. PhD students cannot take more than four courses per semester or exceed the allocated 48 credits.

Waivers
PhD students who have taken courses in their Master’s studies that are suitable substitutes for, or go beyond, courses required by the PhD program may request waivers for these courses. Waivers should be discussed with the Director of the Statistics Graduate Programs, and if they are deemed appropriate, a formal request should be made to the Associate Dean of Research. If the waiver is approved, the student will be allowed to substitute an additional, higher level course for the course waived. Waivers do not reduce the required number of courses (48 credit hours) for the PhD degree.

Transfer of Credit
The PhD program may accept as many Transfer Credits as have been approved by the dean of the school/college up to the limit established by the Graduate School. The transferred courses count toward the total number of units required for the PhD degree.

Time Limit
The PhD program, including the dissertation, must be completed within seven years of admission. Extension of the time limit can be requested and may be granted by the Associate Dean of Doctoral Programs. Requests are usually granted when the PhD student is in the dissertation stage and the delay is caused by extraneous factors that delay the normal completion of the doctoral dissertation. Proper substantiation includes a timetable for completion of the dissertation and a letter of agreement signed by the dissertation chair, in consultation with Director of the Statistics Graduate Program. All extensions require the approval of the Associate Dean of Research. Extensions beyond ten years require approval by the Dean of the Graduate School.

Leave of Absence
Leaves of absence are approved by the Associate Dean of Research only for legitimate circumstances. However, a leave of absence does not extend the maximum time limit for completion.

Post-Coursework Registration
PhD students are required to demonstrate continuous registration by registering for the one of the three designations listed below, depending on their status in the PhD program:

STAT 9994 - Proposal (Preliminary) Examination Preparation: Students must register for 1 credit per semester beginning the semester following completion of their coursework and prior to passing their Proposal (Preliminary) Examination. After passing the Proposal (Preliminary) Examination, students have five years to complete their PhD dissertation. Failure to complete their dissertation in the 5-year period will require retaking and passing a new Proposal (Preliminary) Examination to remain in good academic standing. This rule does not extend the requirement that the PhD program is completed within seven years.

STAT 9998 - Pre-Dissertation Research: Students must register for 1 credit if they have not passed their Proposal (Preliminary) Exam. Students must continue to register until they have successfully defended their dissertation proposal.

STAT 9999 - Dissertation Research: Students must register for 1 – 6 credits per semester once they have defended their dissertation proposal and depending on their expected progress toward completing their PhD dissertation. To receive a PhD degree, students must register for at least a minimum of 2 credits of STATISTICS 9999 according to Graduate School policy.
Appendix 7. Guidelines for International PhD Students

International students enrolled in the PhD program at the Fox School of Business may receive an F-1 visa during their tenure at the program. It is incumbent upon each international student to obey US immigration laws and seek information necessary to maintain proper visa status. The following is a list of some issues pertinent to international students at Fox:

**F-1 Visas / I-20**

F-1 Visa: The F-1 visa is a non-immigrant, full-time, student visa that allows foreign students to pursue education in the United States. The I-20 Form is issued by universities to provide supporting information for the issuance of your F-1 Visa. Temple University’s Office of International Student and Scholar Services (www.temple.edu/iss) can assist you in obtaining these documents. For further information, please refer to the US Department of State Website at travel.state.gov/visa/temp/types/types_1268.html.

I-9 Processing - Proof of Citizenship or Authorization to Study and Work in the US

Federal law requires that all persons provide evidence of U.S. citizenship to seek employment in the United States. Non-U.S. citizens must provide evidence of authorization to work in the United States. U.S. citizens, permanent residents, and non-resident aliens must complete the I-9 form. Temple University requires that Form I-9 is completed in person before beginning employment. Form, instructions, and required documents to complete the I-9 form are available in the Department of Justice website (http://www.justice.gov/usaio/ct/forms/i9.pdf).

Temple University is unable to pay any portion of a stipend before international PhD students have completed the I-9 and other required forms. Students on a non-immigrant visa who work prior to their official start date may be considered to engage in “unauthorized employment” by the Immigration and Naturalization Work Act potentially engaging in a violation of their status.

**Certification of English Language Fluency**

Pennsylvania state law requires that all instructors or instructional supports (Teaching Assistants) who are not native English speakers be certified in spoken English. In compliance with this law, Temple University requires that each international Teaching Assistant and any U.S. citizen who is not a native English speaker be certified for oral English proficiency. This requirement must be met prior to the first day of classes for the semester in which the PhD student will serve as an Instructor or Teaching Assistant.

Certification is obtained by passing either the Test of Spoken English (TSE) with a score of 55 or higher or the SPEAK test with a score of 50 or higher. The Educational Testing Service (http://www.ets.org/tse/) offers the TSE in the United States and other countries. The SPEAK test is administered by Temple’s ITA Program (http://www.temple.edu/ita/) for all Teaching Assistants or instructors who need to be tested.

The Director of the Graduate Programs will meet with all incoming PhD students to assess their English fluency. Evidence of English proficiency is a part of the student’s academic record.

**Graduate School Policies**

The PhD Program in Statistics is governed by the Graduate School procedures laid out in the Graduate Bulletin. Withdrawal from the university, readmission, appeals, and grievances must follow the Graduate School policies, and they are not outlined in this document.
IMPORTANT NOTICE FOR APPLICANTS EDUCATED IN CHINA

Documents certified by the China Academic Degrees and Graduate Education Development Center (CDGDC) or the China Higher Education Student Information and Career Center (CHESICC) are required for a full credential evaluation. Please note that only English translations of the ministry-certified documents are needed from the CDGDC or CHESICC. The Chinese version is not required. Further, photocopies of transcripts, degree certificates, and diploma certificates are not considered official and are not acceptable substitutes for the official documentation. The admissions committee for the program to which you are making application will review your materials to determine your admissions status.

IMPORTANT NOTICE FOR APPLICANTS EDUCATED IN INDIA

All documents must be attested to/verified by the Controller of Examinations or Registrar at the parent university and then sent sealed directly to the Temple University department or program to which you are applying by the examining authority in an envelope bearing the institution’s seal or stamp and/or an appropriate signature across the sealed flap, OR you may make photocopies and have the copies attested to by the Controller of Examinations or Registrar at the parent university. The Controller or Registrar should then place the verified mark sheets in an envelope, seal the envelope, and sign it across the flap before returning it to you to forward to the Temple University department or program to which you are applying. If the seal is broken when the envelope reaches Temple University, the mark sheets will not be accepted. Attestations from persons outside the offices of the Controller of Examinations or Registrar, such as individual professors or external notary publics, will not be accepted. Without exception, mark sheets, degree certificates, or provisional certificates from the Affiliate College or faculty will not be accepted.

Please note that a credential evaluation done internally can take approximately one month. If you will be using the credential evaluation service offered by Temple University, please allow for additional processing time.

Notice: All application materials become the property of Temple University and will not be copied, returned, or forwarded.
Appendix 8. Statistics Journal Lists

Statistics A Journals
Annals of Statistics
Biometrika
Journal of the American Statistical Association
Journal of the Royal Statistical Society, Series B

Statistics A-* Journals
Biometrics
Annals of Applied Statistics

Statistics A- Journals
Biostatistics
Computational Statistics & Data Analysis
Journal of Business & Economic Statistics
Journal of Computational and Graphical Statistics
Journal of Multivariate Analysis
Journal of Statistical Planning and Inference
Journal of Time Series Analysis
Statistical Science
Statistics in Medicine
Statistica Sinica
Technometrics
Appendix 9. University Resources

List of Relevant Online Resources

All students should become familiar with the Graduate School’s policies and services. Information on the organization and role of the Graduate School can be found at: http://www.temple.edu/grad.

All students are members of the FSBM Doctoral Students and Advisors Blackboard Community. You can access the community through: https://tuportal3.temple.edu/cp/home/login or https://blackboard.temple.edu/webapps/portal/frameset.jsp.

The BB community will be the primary medium of communication and information exchange. Since many universities use BB it will be very useful to become familiar with BB and TUPortal. Through TUPortal (https://tuportal3.temple.edu/cp/home/login) you can access all university resources and your personal academic records through TUPortal (http://TUPortal.temple.edu/).

In order to track your progress and to move through the myriad of steps, there are a number of forms you will need. We will post relevant forms to the Doctoral Students and Advisors Blackboard Community site. You may also find most relevant forms at the Graduate School website. Click on forms.

If in doubt, ask. The first line of help is Ms. Lisa Fitch, Associate Director for Doctoral Programs. Always contact Ms. Fitch, your concentration advisor, mentor, department chair or the Associate Dean of Doctoral Programs with questions. If your situation warrants we will refer you to the Graduate School. However, you should not contact the Graduate School otherwise.

General Links
1. Fox School of Business and Management: www.fox.temple.edu
2. School of Tourism and Hospitality Management: www.temple.edu/sthm
3. Collegial Assembly of the Fox School of Business: CAFSB Community on Blackboard
4. Academic Calendar: www.temple.edu/registrar/acad_calendars.html
5. Cherry & White Pages (Directory): http://directory.temple.edu/search
6. AACSB International: www.aacsb.edu (Accreditation/Faculty Qualifications)

Administrative Policies
8. Policy on Sexual Harassment: http://policies.temple.edu/getdoc.asp?policy_no=04.82.01
9. Parking: www.temple.edu/parking

Research
12. Additional Research Funding Opportunities: www.sbm.temple.edu/crc
14. Wharton Research Data Services: http://wrds.wharton.upenn.edu

Teaching
16. University Teaching and Learning Center: www.temple.edu/tle
18. Blackboard: https://blackboard.temple.edu/
19. Technology Training: https://computerservices.temple.edu/technology-training
Student-Related Policies

23. Policy on Faculty Office Hours:  http://policies.temple.edu/getdoc.asp?policy_no=02.78.12
27. University Student and Faculty Academic Rights and Responsibilities:  http://policies.temple.edu/getdoc.asp?policy_no=03.70.02

Where to Refer Undergraduate Students

29. Student Professional Development
   i. Undergraduate:  Center for Student Professional Development:  http://www.fox.temple.edu/cms_research/institutes-and-centers/center_for_student_professional_development/
   ii. Graduate:  Graduate Career Management Center  http://www.fox.temple.edu/cms_research/institutes-and-centers/center_for_student_professional_development/graduate/
30. University Writing Center:  www.temple.edu/writingctr
31. Math and Science Resource Center:  www.temple.edu/msrc
32. Tuttleman Counseling Services:  http://www.temple.edu/studentaffairs/counseling/
33. Disability Resources and Services:  http://www.temple.edu/studentaffairs/disability/
Appendix 10. Academic Integrity

Academic integrity is an essential characteristic for successful research and teaching careers. Academic integrity is founded on the principles of honesty, integrity of data and research methodology, and confidentiality. PhD students should have intellectual and personal honesty in learning, teaching, and research. They should not knowingly misrepresent data or their origin. Names of co-authors and collaborators represent their true contribution and are not added or deleted without their permission. PhD students should be true to reporting results, do not act in gross negligence in collecting and analyzing data, and they do not selectively report or omit data for deceptive purposes. Furthermore, PhD students do not take or release the ideas or data of others that were shared with the legitimate expectation of confidentiality. PhD students should also adhere to the Institutional Review Board (IRB) policies on protecting human or animal subjects, and students should refer to Temple University’s IRB policies when conducting human-related experiments or survey research. For information about IRB at Temple University, please read: http://www.temple.edu/ovpr/irb/.

Plagiarism

PhD students are forbidden from plagiarizing or helping other students plagiarize. Plagiarism is the unacknowledged use of another person’s words, ideas and facts, or work, as explained below.

Words: When using a phrase, a sentence, or longer passages that someone else wrote or spoke, PhD students must surround the copied language with quotation marks and indicate the source. Do not closely paraphrase someone else’s written or spoken language and pass it off as your own.

When in doubt, it is recommended to give the citation. Longer passages should be indented, without quotation marks. When in doubt, PhD students should consult their mentors.

Ideas and Facts: When mentioning someone else’s ideas, they must be acknowledged by naming the source. Some facts are commonly known, undisputed pieces of information, and it may not be necessary to name their source. However, when using ideas or facts that are not widely known, their source must be duly credited.

Work: In course assignments, PhD students must do their own original work and not submit their own work from another course without the agreement of the instructor. The instructor may expect PhD students to cooperate with other students. PhD students should not submit work that does not contain a significant contribution of their own. When computer programs or laboratory reports are required from each individual student, group discussion may be encouraged, but students are then expected to work toward a final product on their own; at no time should all, or part, of a program or report be developed jointly, or copied from another student.

Examinations: Unless the instructor informs otherwise, all examinations are "closed book."

Penalties: Charges of plagiarism or any form of academic misconduct should be brought immediately to the attention of the PhD Director of the Graduate Program. It is the Director’s responsibility to inform the Vice Dean and the Academic Grievance Committee of the Fox School of Business. This committee, which is composed of faculty and students, determines guilt or innocence and, if guilty, makes a recommendation to the Dean of the Fox School who makes the final decision.

Academic Grievance

Temple students who believe that instructors are introducing extraneous material into class discussions or that their grades are being affected by their opinions or views that are unrelated to a course’s subject matter can file a complaint under the University’s policy on academic rights and responsibilities. The policy can be found at: http://policies.temple.edu/getdoc.asp?policy_no=03.70.02

The policy encourages students to first discuss their concerns with their instructor. If a student is uncomfortable doing so, or if discussions with the instructor do not resolve the student’s concerns, an informal complaint can be made to the Student Ombudsperson for the student’s school or college. Unresolved complaints may be referred to the Dean for handling in accordance with the school or college’s established grievance procedure. Final appeals will be determined by the Provost.

All students and faculty in Temple University have the right to adjudicate grievances concerning academic matters within the Fox School of Business in a fair and expeditious manner. However, the standards of academic performance are reserved for faculty responsible for teaching the course in question. The procedures set forth below are for the purpose of
insuring a fair adjudication of grievances. These procedures apply to all grievances arising from any course offered by FSB. These procedures do not apply to grievances arising out of courses offered by other schools and colleges within the University.

The scope of academic grievances shall include academic matters and/or other matters affecting a student's academic degree program and/or academic performance, such as good standing, grades, written evaluations (exclusive of letters of recommendation), faculty performance, comprehensives, dissertations, and granting of degrees. Grounds for academic grievances may include: discrimination by race, color, sex, age, religion, national origin, sexual orientation, marital status, or disability; clerical error; coercion and intimidation (including sexual harassment); fraud; and violation of the rules of FSB and Temple University.

A student or group of students who wish to present a grievance shall do so as expeditiously as possible and must follow the steps in the order presented below. Grievances must be filed within six months of the occurrence of the alleged grievance. A student may withdraw a grievance at any time.

Although any student has the right to formal adjudication of an academic grievance, this right should not be abused. The formal presentation of a grievance is a serious action, and should therefore be instituted only when the situation warrants doing so. Further, all informal methods of adjudication (for example, informal conferences, mediation through the Ombudsperson and/or administrator) must be exhausted before instituting a formal grievance. If a student chooses to file a formal grievance, the assistance of the Ombudsperson and/or the appropriate administrator may be used at any time.

The role of the Ombudsperson and/or the administrator shall be that of mediator, not advocate. The Ombudsperson and/or the administrator will be the only third party permitted to participate in these procedures. This is not, however, to preclude the calling of witnesses. Any student may retain legal counsel but their role will be limited to that of an observer only. Any formal grievance must follow the order of stages given below. The parties shall attempt to resolve the grievance expeditiously and at the earliest possible stage.
Appendix 11. Temple University Policy and Procedures for Instructors

Temple University has instituted several policies, effective September 1, 2003, designed to foster student academic progress and strengthen communications between and among instructors, students and advisers. The complete statements of these policies are available on the Temple policy website at http://policies.temple.edu and in the UNDERGRADUATE BULLETIN, "Academic Policies," http://www.temple.edu/bulletin/. Sample forms and summaries are available on the Vice Provost for Undergraduate Studies website.

Course Syllabus: In the first week of the term, instructors are required to supply students a detailed syllabus explaining course rules and expectations. The required items for your course syllabi are enumerated on the policy website and include eleven categories of information. A copy should be given to your departmental office.

Prerequisites and Co-requirements: Official course prerequisites or co-requirements must be clearly indicated in your course syllabus. They are published in the Undergraduate Course Descriptions and online at http://webserv.adminsvc.temple.edu/tucourses/. If you are in doubt about the published prerequisites to be identified in your course syllabus, consult with your departmental chair. Students who have not satisfied the published prerequisites or co-requirements may have their registrations cancelled and be removed from class. Send students who lack the appropriate prerequisites or co-requirements to their advisers to correct their course schedules.

Instructor Office Hours: Full-time instructors are required to hold a minimum of three office hours per week and should schedule one hour immediately before or after one of the scheduled class meeting times for each course. Adjunct instructors are required to schedule one office hour per week for each class they teach and should schedule that hour either immediately before or after one of the scheduled class meeting times for that course. Please talk regularly with your students about their academic work and progress in the course. (Policy #02.78.12 and #02.72.11)

Registration: Students must be registered for the courses they attend. Instructors should be concerned with two potential problems regarding student registration. First, students appear on your class list but never attend the class. If the student is still on your grade list at the end of term, your only option is to give the student a grade of "F." Second, students attend the class but are not on your class list. Send such unregistered students to their academic advising office to correct their course schedules right away. Students not on the published grade list may not receive grades or credit for the course. In order to help keep track of students officially in your course, you can request updated course rosters from your department or your Dean's Office. (http://www.temple.edu/bulletin/).

Temple Portal (TUPortal): All students have available on TUPortal a complete electronic record of their active course registrations, billing status, grades, and academic history. They also receive important messages about their academic standing. This means that students in your class who have questions about whether they have received passing grades in prerequisite courses, whether they are officially registered for your course, and many other matters, can find immediate answers online.

Temple E-mail: All students are required to obtain a Temple e-mail address and to follow guidelines for University use of e-mail; instructors will now be able to depend on a @temple.edu address to correspond with each student and to use the addresses to create course Listservs or e-mailing lists. (Policy #04.74.11)

Lower Division Courses: Student Academic Progress: Beginning in spring 2004, instructors in all courses numbered 0001-1999 will provide evaluations of satisfactory and unsatisfactory student progress by the end of the fifth week of class. If you are teaching one of these courses, you will receive a ratings report, similar to a grade list. It is your responsibility to schedule and return graded assignments early enough to accommodate this report and to complete it by the deadline. Students and advisers will receive the ratings electronically. (Policy #02.10.15)

Withdrawal from Classes: No student may withdraw from a course after the ninth week of classes. A student may not withdraw from the same course more than once. A student may withdraw from no more than five courses (taken after Sept. 1, 2003) during an undergraduate career. Students are encouraged to discuss this option in advance with their instructor. To withdraw, students must obtain an adviser’s signature. Instructors will not be required to sign withdrawal forms. (Policy #02.10.14)

Incomplete Course Work: Instructors submitting a grade of "I" (Incomplete) for students must file, with the department, a written agreement describing the nature of the work to be completed and the completion deadline. The instructor must
report a default grade that will be entered if the student's work is not completed or if the instructor does not change the "I" grade within one year. An instructor will file an "I" (Incomplete) only if the student has completed the majority of the work of the course at a passing level, and only if the student's work for the course was not completed for reasons beyond the student's control. (Policy #02.12.13)

Course and Teaching Evaluations (CATE): With few exceptions, each instructor is required to employ a standard form for student evaluation of courses and teaching. You should review the evaluation form when planning your courses. Instructors should not be present while students are filling out the CATE. The evaluation is not to be administered during final examinations. (Policy #02.78.14)

Grade List Changes: Beginning in December 2003, instructors filling out grade lists should note important changes. All students on your grade list should receive letter grades (A to F), unless you are teaching a specially approved credit/no credit course (The "NR" grade is no longer an instructor's grading option). Do not leave a student grade blank. Instructors submitting "I" (Incomplete) grades must complete a departmental, written agreement and enter a default grade to be assigned if the student's work is not completed.

Uniform Hours for Office Providing Student Services: When referring students, be aware that all University offices directly serving students maintain uniform business hours from 8:30 a.m. to 5:00 p.m. (policy #04.31.11)

Academic Warning: A student with a semester grade point average below 2.00 will be placed on Academic Warning and will not be permitted to register by telephone or online. All students on Academic Warning must receive the approval of their academic adviser for registration. Students with fewer than 24 cumulative credits will also receive an Academic Warning if their cumulative GPA is below 2.0. (Policy #02.10.11).

Academic Probation: Academic Probation is a sanction given to students whose cumulative grade point average (GPA) is below 2.0 after having accumulated 24 credits or more. Students on Academic Probation at the end of the spring grading cycle are not eligible for financial aid or university housing in the next semester, unless they raise their GPA to 2.0 or above by taking Temple summer school courses. (Policy #02.10.11)

Academic Dismissal: Academic Dismissal will be determined by a system of deficiency points that will allow students to track their academic performance more easily. If a student has been on probation in the previously attended semester, has 24 credits or more, and has too many deficiency points, the student will be dismissed. Please review material on the policy website or in the Undergraduate Bulletin to familiarize yourself with this method of representing academic performance. (Policy #02.10.11).

Reinstatement and Readmission: Students who have been dismissed for poor academic performance may apply for reinstatement after completing work successfully on Conditional Status; dismissed students not approved for such status may apply for readmission five years after their last enrollment. Rules governing these applications are explained at the policy website and in the Undergraduate Bulletin. (Policy #02.10.11)
Appendix 12. Statistics Course Listing

5001: Quantitative Methods for Business (3 s.h.) This course is designed to introduce contemporary elementary applied statistics to provide an appreciation for the uses of statistics in business, economics, everyday life, as well as hands-on capabilities needed in other courses and professional employment.

5002: Introduction to BioStatistics (3 s.h.) Same statistical methods covered in Stat 5001 but illustrated with special emphasis on applications in health and biological sciences.

8001: Probability and Statistics Theory I (3 s.h.) (Prerequisite: Advanced calculus). Prerequisite: Advanced calculus. Topics include basic probability theory, random variables, standard probability distributions, Basics of asymptotic theory; limit theorems, statistical decision theory, sampling distribution, and distribution theory of order statistics.

8002: Probability and Statistics Theory II (3 s.h.) (Prerequisite: Stat. 8001). A comprehensive development of the theory of statistics, including, data reduction (sufficiency, completeness, ancillary statistics), estimation techniques (method of moments, least squares, maximum likelihood, Bayes estimation), theory of estimation (bias, sampling error, sampling distribution; best unbiased estimators; lower bounds on variance; consistency, large sample properties), hypothesis testing (likelihood ratio tests, Neyman-Pearson Theorem; p-values, power; Bayesian tests; unbiased and most powerful tests; score tests), interval estimation (pivotal quantities, inversion of tests; confidence intervals, Bayesian credible intervals; large sample confidence intervals), bootstrap resampling technique.

8003: Statistical Methods I (3 s.h.) (Prerequisite: Calculus). Introduction to applied statistics. Topics include basic concepts about probability, method of moments, MLE, EM-algorithm, confidence interval, hypothesis testing, nonparametric methods, and Bayesian methods with focus on methods and applications. The course requires heavy usage of R.

8004: Statistical Methods II (3 s.h.) (Prerequisite: Stat 8003 or permission of instructor). This course covers statistical methods including linear models and applications, analysis of multifactor experiments, linear mixed-effects models, generalized linear models. More topics including nonparametric smoothing and bootstrap will also be introduced if time permits.

8031: Probability and Large Sample Theory (Prerequisite: Stat 8001 and Stat 8104 or equivalent courses). An in-depth knowledge in real analysis is mandatory for this course. An advanced level theoretical course covering measure theoretic probability, some probability inequalities, statistical independence, strong and weak laws of large numbers, convergence theories, variance stabilizing transformations, characteristic functions, and central limit theorem.

8101: Stochastic Processes (3 s.h.) (Prerequisite: Stat 8001 or Stat 8112 or permission of instructor). After a review of some key concepts and properties of special distribution functions, the course will cover discrete-time Markov chains, Poisson point processes, random walks, martingales, renewal processes, wiener processes, Brownian motion, and diffusion processes. Examples from statistics, engineering, and finance will be used throughout the course.

8102: High-Dimensional Statistical Methods (3 s.h.) (Prerequisite: Stat 8004 or permission of instructors). High-dimension statistical methods for analyzing large and complex data sets will be introduced in the framework of linear and generalized linear models. Main topics include methods for penalized estimations, variable and model selection, covariance/correlation matrices estimations with applications, and inferences with high-dimensional statistical methods.

8103: Theory and Methods of Sample Surveys (3 s.h.) (Prerequisite: Undergraduate statistics courses and completion or currently enrolled in Stat 8001 and 8003). This course covers basic theory of design and estimation of sample surveys on finite population. Topics include concepts of probability sampling, simple random, systematic, stratified, clustered, multistage and other probability sampling methods. Methods including Horvitz-Thompson estimation of totals, means, proportions, and regression coefficients and model assisted ratio and regression estimations, replication method for variance estimation will be introduced. More topics, e.g. nonresponse effect and imputation will be covered if time permits.

8104: Mathematics for Statistics (3 s.h.) (Prerequisite: undergraduate calculus and linear algebra or permission of instructor). Vector spaces and subspaces; linear independence; rank of a matrix; special matrices like orthogonal, idempotent, nilpotent, Hadamard, and Givens, partitioned matrices; determinant; inverse and g-inverse; solutions of linear equations; Eigenvalues and eigenvectors; diagonalization theorems; quadratic forms and optimization; sets; Sigma Field, Lebesgue, and probability measures; limits and continuity of functions; derivatives and partial derivatives; mean value theorem; Taylor's expansion; maxima and minima of functions; infinite sequences and series with tests of convergence; integration of several variables; gamma and beta integrals; Sterling's formula; fundamental inequalities; some results on optimization and approximation of functions.

8105: Time Series Analysis I (3 s.h.) (Prerequisite: Stat. 8002 or 8004 or permission of instructor). This course covers theory and application of univariate time series analysis, and both time domain and frequency domain methods. Topics include stationary and non-stationary linear processes, time series model building, forecasting, unit root test, intervention models and outlier detection, spectral theory of stationary processes, spectral windows, and estimation of spectrum. Projects using software are required.
8106: Generalized Linear Models I (3 s.h.) (Prerequisite: Stat. 8002, Stat 8004 and Stat. 8104 or permission of instructor). Covers the basic theory and practice of generalized linear models (GLM), the logistic, Poisson, and gamma regression, as well as models for multilevel or longitudinal Gaussian responses, such as the hierarchical linear model and linear mixed model. The students will work with R and/or SAS throughout the semester.

8107: Design of Experiments I (3 s.h.) (Prerequisite: Stat. 8004 or permission of instructor). Principles of experimental designs, completely randomized designs, multiple comparisons, randomized block design, Latin square designs, missing value problems, analysis of variance, and factorial experiments.

8108: Applied Multivariate Analysis I (3 s.h.)(Prerequisite: Stat. 8001, 8003, and 8104, or permission of instructor). Multivariate normal distribution, marginal and conditional distributions, estimation of population mean vector and dispersion matrix; correlation, partial correlation, and multiple correlation coefficients, Hotelling's T², MANOVA, discriminant function, repeated measurements analysis, principal components and canonical correlation, factor analysis, and multidimensional scaling.

8109: Regression, Time Series, and Forecasting for Business Applications (does not carry credit for MS or PhD in Statistics) (3 s.h.) (Prerequisite: Stat. 5001 or 5002 or permission of instructor). Intermediate level course that covers regression analysis, time series analysis, and forecasting. The course is application oriented and standard statistical packages such as MINITAB are introduced and extensively used.

8110: Statistical Theory for Business Research (may substitute for 8001-8002 for MS in Statistics, does not carry credit for PhD in Statistics) (3 s.h.) (Prerequisite: Stat. 5001 or 5002 or permission of instructor). Application oriented. A course dealing with statistical and non-statistical aspects of organizing a sample survey. Included are discussions of objectives, measurement, sample selection, pilot testing, data collection, data editing, summarization, and interpretation of results, in addition to describing the various sampling schemes. Students may be required to plan and execute a survey.

8111: Survey Techniques for Business Applications (does not carry credit for PhD in Statistics) (3 s.h.) (Prerequisite: Stat. 5001 or 5002 or permission of instructor). Application oriented. A course dealing with statistical and non-statistical aspects of organizing a sample survey. Included are discussions of objectives, measurement, sample selection, pilot testing, data collection, data editing, summarization, and interpretation of results, in addition to describing the various sampling schemes. Students may be required to plan and execute a survey.

8112: Statistical Theory for Business Research (may substitute for 8001-8002 for MS in Statistics, does not carry credit for PhD in Statistics) (3 s.h.) (Prerequisite: Stat. 5001 or 5002 or permission of instructor). The course covers a variety of statistical theory and methods illustrating with applications in business. Random variables, joint and conditional probability distributions, sampling distributions, estimation and testing of hypotheses, regression and nova analyses, chi-squared methods of association.

8113: Statistical Methods for Business Research (does not carry credit for MS or PhD in Statistics) (3 s.h.) (Prerequisite: Stat. 8002 or 8004 with instructor's permission). Topics covered in this course are: multiple linear regressions, ANOVA, logistic regression models, Poison regression models, multinomial regression models, factor analysis and Bayesian statistics. The course requires heavy usage of R.

8114: Survival Analysis I (3 s.h.) (Prerequisite: Stat 8002 or 8004 with instructor's permission). Life tables, parametric and nonparametric methods for estimating hazard and survival functions, inference with Cox proportional hazard model with covariates.

8115: Nonparametric Methods (3 s.h.) (Prerequisite: Stat 8002 or 8004 with instructor's permission). Nonparametric statistical methods, estimation and testing of hypothesis when the function form of the population distribution is not completely specified.

8116: Categorical Data Analysis. (3 s.h.) (Prerequisite: Stat. 8002 or 8004 with permission of instructor). Sampling models and analyses for discrete data, Fisher's exact test, logistic regression, ROC analysis, log-linear models and Poison regression, conditional logistic regression, Cochran-Mantel-Hansel test; measures of agreement between observers, quasi-independence, multinomial logic models, proportional odds model, association models, generalized estimating equations (GEE), generalized linear mixed model (GLIMMIX), GSK models, composite link functions. The students will need to work with R and/or SAS throughout the semester.

8117: Clinical Trials (3 s.h.) (Prerequisite: Stat. 8002 or 8004 with permission of instructor). Introduction to the special problems associated with medical trials on humans. Topics include randomization, sample-size determination, methods for early trial termination, and tests for superiority, equivalence, and non-inferiority. Also discussed are choice of endpoints, control of side effects, and use of historical data, meta-analysis, and ethics of experimentation on humans.

8121: Statistical Computing (3 s.h.) (Prerequisites: Stat. 8003 or permission of instructor). Topics include: floating point architecture, random number generation, design of statistical software, computational linear algebra, numerical integration, optimization methods.

8122: Advanced SAS Programming (3 s.h.).

8123: Time Series Analysis and Forecasting (3 s.h) (Prerequisite: Stat 8002 or 8004 or permission of instructor). A time series analysis with financial and business applications. Topics include important univariate and multivariate time series methods including ARIMA models, intervention analysis, outlier detection, time series regression, volatility and GARCH models, vector time series and co-integration. Projects using software are required.

8982: Independent Study (1-3 s.h.) (Masters Students Only) (Prerequisite: Departmental Approval). Normally for 1 credit with maximum 3 credits. Special study in statistics theory and methods under the direct supervision of a graduate faculty member. No more than three semester hours of independent study may be counted toward MS degree requirements.
9001: Advanced Statistical Inference I (3 s.h.) (Prerequisite: Advanced Calculus, Stat 8001-8002, or 8031 or equivalents). Background: Matrix Theory. Estimation: sufficiency, completeness, UMVU Estimation, information inequality, invariance principle, Bayes estimation, admissibility, maximum likelihood estimation, large sample properties of estimators.

9002: Advanced Statistical Inference II (3 s.h.) (Prerequisite: Stat. 9001). Topics include testing of hypotheses, Neyman-Pearson Fundamental Lemma, uniformly most powerful tests, confidence intervals, likelihood ratio tests, asymptotic tests, multiple hypotheses testing, EM algorithm, bootstrap, multiple testing, etc. in addition to the standard statistical inference topics.

9101: Time Series Analysis II (3 s.h.) (Prerequisite: Stat. 8105 or its equivalent or permission of instructor). This course covers theory and application of multiple time series analysis and special topics, including transfer function models, time series regression, vector time series models, cointegration, multivariate GARCH models, multivariate spectral analysis, state space models, long memory and nonlinear processes, time series aggregation and disaggregation, repeated measurements, space-time modeling, high dimensional time series problems, and others. Projects using software are required.

9103: Statistical Learning and Data Mining (3 s.h.) (Prerequisite: statistical theory and methods (e.g., Statistics 8001, 8002, 8003, and 8004) or with permission of instructor; a good knowledge of matrix algebra, of at least one of packages: S-PLUS, R, MATLAB, SAS, SPSS). This course includes topics such as multiple regression, prediction accuracy and model assessment, cross-validation, bootstrap, biased regression methods, principal components regression, partial least-squares regression, ridge regression, shrinkage estimators, multivariate reduced-rank regression, neural networks, principal components, canonical variates, projection pursuit, multidimensional scaling and distance geometry, linear discrimination and classification, support vector machines and kernel methods, Decision trees for regression and classification, combined classifiers by bagging, boosting, and random forests, nonlinear dimensionality reduction, nonlinear manifold learning, and clustering algorithms. Emphasis will be on working with large data sets obtained from data mining, machine learning, and bioinformatics applications.

9106: Generalized Linear Models II (3 s.h.) (Prerequisite: Stat. 8106 or permission of instructor). Continuation of Stat 8106 covers the theory and practice of analyzing multivariate repeated/correlated non-Gaussian responses, with or without missing observations. Missing at random (MAR) models; informative missingness; EM algorithm; multiple imputations; quasi-likelihood estimation; generalized estimating equations (GEE); transition models; Gibbs sampling; Markov Chain Monte-Carlo (MCMC) technique. The students will need to work with R, SAS and WinBugs throughout the semester.

9107: Design of Experiments II (3 s.h.) (Prerequisite: Stat. 8107 or with permission of instructor). Covers symmetric and asymmetrical factorial experiments, fractional replication, split plot design, balanced and partially balanced incomplete block designs without and with recovery of inter block information and lattice designs.

9108: Multivariate Analysis II (3 s.h.) (Prerequisite: Stat. 9002 and 8108 or with permission of instructor) Specialized topics in multivariate analysis.

9114: Survival Analysis II (3 s.h.) (Prerequisite: Statistics 8114 or with permission of instructor) Applications of advanced tools such as martingale theory in survival analysis.

9116: Statistical Genetics: an advanced graduate course (Prerequisite: Stat 8001, 8002, 8003 and 8004 or equivalent courses) A basic knowledge in R and/or SAS is mandatory for this course. An advanced level graduate course in statistical genetics covering the Basic concepts of allele, gene, genotype, phenotype, Hardy-Weinberg equilibrium, linkage analysis, QTL mapping using marker analysis, functional mapping for longitudinal traits, analysis of ultra-high dimensional data, genome-wide association studies.

9180: Seminar in New Topics in Statistics (3 s.h.) (Prerequisite: Permission of instructor) Special topics in Statistics.

9183: Directed Study in Statistics (variable credit) (Prerequisite: departmental permission)

9190: Seminar in New Topics in Statistics (3 s.h.) (Prerequisite: Permission of instructor) Special topics in Statistics.

9994: Directed Study in Statistics (variable credit) (Prerequisite: departmental permission) Preparation for proposal (preliminary) examinations.

9998: Directed Study in Statistics (variable credit) (Prerequisite: departmental permission)

9999: Dissertation Research (1-12 s.h.) (Prerequisite: departmental approval)
Appendix 13. PhD/STAT Annual Evaluation Forms

1st Year PhD/STAT Annual Evaluation Form
All faculty advisors/mentors must complete an annual evaluation for Statistics PhD students. Once completed, these forms should be sent to the Doctoral Programs Office (foxphdoffice@temple.edu), with a copy of the form being provided to the Statistics Department’s Senior Administrative Assistant. Evaluations should also be reviewed with the PhD Student to discuss comments and any steps for remediation.

The Annual Evaluation has four outcomes: High Pass, Pass, Marginal, and Fail (please see page 46 for reference). Please check only one outcome in each category along with an overall rating, add comments below each section and attach any letter/email provided to the student to the form. Signatures required below.

| Student Name: ___________________________ | TU Id __________________________ |
| Address: ______________________________________________________________ | |
| City _______________________________ | State _____ | Zip ________________ |
| Phone : ___________________________ | Temple E-Mail ___________________ |
| Date: ___________________________ |

Course works of theory and methods:
| High Pass | Pass | Marginal | Fail |
| Comments: |

Screening Exam (circle one):
| High Pass | Pass | Marginal | Fail |
| Comments: |

Overall Evaluation (circle one):
| High Pass | Pass | Marginal | Fail |
| Comments: |

Remediation Required? (Circle One) Yes No

Follow-up Date: (Should be prior to start of Spring semester) __________________

What specific steps must the student take?

What are the specific benchmarks that must be attained? By when?

_________________________     ___________________________     ____________
Signature of PhD Mentor     Print name     Date

_________________________     ___________________________     ____________
Signature of Advisor       Print name     Date

_________________________     ___________________________     ____________
Signature of PhD Program Director     Print name     Date
2nd Year PhD/STAT Annual Evaluation Form

All faculty advisors/mentors must complete an annual evaluation for Statistics PhD students. Once completed, these forms should be sent to the Doctoral Programs Office (foxphdoffice@temple.edu), with a copy of the form being provided to the Statistics Department’s Senior Administrative Assistant. Evaluations should also be reviewed with the PhD Student to discuss comments and any steps for remediation.

The Annual Evaluation has four outcomes: High Pass, Pass, Marginal, and Fail (please see page 46 for reference). Please check only one outcome in each category along with an overall rating, add comments below each section and attach any letter/email provided to the student to the form. Signatures required below.

Student Name: ___________________________ TU Id __________________________
Address: ________________________________________________________________
City _______________________________ State _____ Zip ________________
Phone : ______________________________ Temple E-Mail _____________________
Date: __________________________

During Year 2, the PhD students are strongly encouraged to take courses in various areas for identifying their research fields for dissertations. Every 2nd year PhD student is required to submit an essay to best present his/her stage of research preparation. The minimal expectation of the essay is reviewing and summarizing literature in area(s) that the candidate has studied in the previous two years. PhD students who are making progress in their research are encouraged to include a progress report in their required essay.

Presentation Skills: (circle one):          High Pass         Pass           Marginal         Fail
Comments:

Research Preparation (circle one):   High Pass         Pass           Marginal         Fail
Comments:

Overall Evaluation (circle one):          High Pass         Pass           Marginal         Fail
Comments:

Remediation Required?  (Circle One)      Yes      No
Follow-up Date: (Should be prior to start of Spring semester) __________________

What specific steps must the student take?
What are the specific benchmarks that must be attained? By when?

________________________________   _______________________________   ____________
Signature of PhD Mentor      Print name      Date

________________________________        __________________________   ____________
Signature of Advisor    Print name     Date

________________________________        __________________________   ____________
Signature of PhD Program Director   Print name     Date
3rd Year PhD/STAT Annual Evaluation Form

All faculty advisors/mentors must complete an annual evaluation for Statistics PhD students. Once completed, these forms should be sent to the Doctoral Programs Office (foxphdoffice@temple.edu), with a copy of the form being provided to the Statistics Department’s Senior Administrative Assistant. Evaluations should also be reviewed with the PhD Student to discuss comments and any steps for remediation.

The Annual Evaluation has four outcomes: High Pass, Pass, Marginal, and Fail (please see page 46 for reference). Please check only one outcome in each category along with an overall rating, add comments below each section and attach any letter/email provided to the student to the form. Signatures required below.

Student Name: ___________________________  TU Id __________________________

Address: ____________________________________________________________________

City ___________________________  State _____  Zip ________________

Phone: ___________________________  Temple E-Mail __________________________

Date: ___________________________

Before the beginning of the 3rd year, PhD students are expected to finalize dissertation advisor search. Upon completing the 3rd year, PhD students are expected to be prepared for actively participating in various research activities including the school’s Research Paper competition for PhD students, to write journal articles based on their research, and to present in conferences like the yearly Joint Statistical Meetings (JSM).

Presentation Skills (circle one): High Pass  Pass  Marginal  Fail
Comments:

Progress Report (circle one): High Pass  Pass  Marginal  Fail
Comments:

Publications (circle one): High Pass  Pass  Marginal  Fail
(Conference or Journal)
Comments:

Overall Evaluation (circle one): High Pass  Pass  Marginal  Fail
Comments:

Remediation Required? (Circle One) Yes  No

Follow-up Date: (Should be prior to start of Spring semester) ________________

What specific steps must the student take?

What are the specific benchmarks that must be attained? By when?

________________________________   _______________________________   ____________
Signature of PhD Mentor        Print name     Date

________________________________   _______________________________   ____________
Signature of Advisor    Print name     Date

________________________________        __________________________   ____________
Signature of PhD Program Director   Print name     Date
4th Year and beyond PhD/STAT Annual Evaluation Form

All faculty advisors/mentors must complete an annual evaluation for Statistics PhD students. Once completed, these forms should be sent to the Doctoral Programs Office (foxphdoffice@temple.edu), with a copy of the form being provided to the Statistics Department’s Senior Administrative Assistant. Evaluations should also be reviewed with the PhD Student to discuss comments and any steps for remediation.

The Annual Evaluation has four outcomes: High Pass, Pass, Marginal, and Fail (please see page 46 for reference). Please check only one outcome in each category along with an overall rating, add comments below each section and attach any letter/email provided to the student to the form. Signatures required below.

Student Name: ___________________________ TU Id __________________________

Address: ___________________________________________________________________

City _______________________________ State _____ Zip ________________

Phone : __________________________ Temple E-Mail _______________________

Date: __________________________

In addition to participate in various research activities including the school’s Research Paper competition for PhD students, to write journal articles based on their research, and to present in conferences like the yearly Joint Statistical Meetings (JSM), a PhD student needs to make sure the completion of his/her dissertation proposal and be elevated to doctoral candidate before the end of the 4th year.

Progress on Dissertation and/or Dissertation Proposal (circle one):
Comments: High Pass Pass Marginal Fail

Teaching and/or Presentation Skills (circle one):
Comments: High Pass Pass Marginal Fail

Research Progress (circle one):
Comments: High Pass Pass Marginal Fail

Publications (circle one): (Conference Proceedings or Journals)
Comments: High Pass Pass Marginal Fail

Overall Evaluation (circle one):
Comments: High Pass Pass Marginal Fail

Remediation Required? (Circle One) Yes No

Follow-up Date: (Should be prior to start of Spring semester) ___________________

What specific steps must the student take?

What are the specific benchmarks that must be attained? By when?

________________________________   _______________________________   ____________
Signature of PhD Mentor      Print name     Date

________________________________        __________________________   ____________
Signature of Advisor    Print name     Date

________________________________        __________________________   ____________
Signature of PhD Program Director   Print name     Date
PhD/STAT Annual Evaluation Form – Outcome Definitions

The Annual Evaluation has four outcomes: High Pass, Pass, Marginal, and Fail

**High Pass:** The student is making outstanding progress in the PhD program.

**Pass:** The student is making sufficient progress in the PhD program.

**Marginal:** The student is not making sufficient progress in the PhD program and requires specific remedial measures.

**Fail:** The student is failing in the PhD program.

**High Pass** should be given rarely to truly outstanding PhD students who have made exceptional progress during the previous academic year. Examples of “High Pass” performance include 4.0 grade point average in their coursework, superb performance in the screening or comprehensive exam, formal research proposal and research paper requirements, publications in top journals (such as “A” list in Appendix 8) and prestigious conferences, research awards, teaching awards and very high teaching evaluations, and other demonstrated instances of outstanding performance. No more than 25% of the PhD students in the program are typically expected to receive a ‘High Pass’ in the annual evaluation, and each faculty adviser or faculty mentor must make a strong case that a PhD student warrants a High Pass in the annual evaluation. Students who receive a high pass are eligible for merit-based performance awards that will be determined by the Director of the PhD Program in consultation with the department chair. These performance-based awards may be in the form of conference travel support, or other monetary or non-monetary rewards.

**Pass** should be given to PhD students who make very good progress in their PhD program, substantiated through very high grade point average in coursework, strong performance in the screening or comprehensive exam, publications in top journals (“A-” list in Appendix 8) and reputable conferences, high teaching evaluations, and other evidence of strong performance. Pass should be given to students who participate in research presentations and show good citizenship. It is expected that at least 50-75% of PhD students receive a ‘Pass’, and both the PhD mentor and/or advisor should work with all of their PhD students during the year to ensure that all students make at least very good progress in the PhD program to warranty a Pass grade.

**Marginal** is given to PhD students who make insufficient progress in the PhD program and require specific remedial measures. This evaluation would be given to students with weak performance in their coursework, failed or borderline performance in the screening or preliminary exams and research papers, lack of strong research record, weak teaching evaluations by students or faculty, and other evidence of weak performance or lack of participation in the department’s research activities. Students receiving a Marginal grade usually have weaknesses in the major parts of the program, such as coursework, screening or preliminary exam, failure to defend a dissertation proposal, or inadequate progress toward the dissertation. PhD students who receive a Marginal grade must meet with their PhD mentor and/or advisor to review their progress and identify steps to improve performance. Also, PhD students who receive a marginal grade may have their research or teaching assistantship terminated at the discretion of the Director of the PhD program in consultation with the student’s PhD mentor and/or advisor. Specific remedial measures must accompany a Marginal grade in order for the student to continue in the PhD program.

**Fail** is given to PhD students who have major weaknesses in the PhD program evidenced through poor grades, failing the screening or preliminary exam, no independent research record, poor teaching evaluations, and no progress toward the dissertation. Students not attending the department’s regular research presentations should also receive a failing grade. Receiving a ‘Fail’ in the annual evaluation constitutes a basis for dismissal from the PhD program, and it is usually accompanied by other demonstrated problems in the program, such as insufficient progress on the dissertation, failing the screening or preliminary exam, or problems with coursework. Students who receive a failing grade in the annual evaluation will have their assistantships terminated and may be subject to immediate dismissal, particularly if prior warnings were issued. Recommendations for dismissal will be reviewed by the Director of the PhD Program. Recommendations to dismiss will be forwarded to the Associate Dean for who will issue a formal dismissal letter.