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## DOCTORAL PROGRAMS

### **Policies and Procedures**

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### **\*PhD Degree Requirements Checklist\***

*(Current as of March 2017)*

The Wharton School policies and procedures that are reported in this document define the minimum standards to which all of the School's Doctoral concentrations and programs must adhere. These policies and procedures also present guidelines for students regarding course work, examinations, and dissertation research. Additional requirements specific to each department/program are listed in the document appendices.

**\*\*IT IS ESSENTIAL THAT ALL DOCTORAL STUDENTS READ AND ADHERE TO THESE REQUIREMENTS  
\*\* OFTEN, DOCTORAL REQUIREMENTS WILL CHANGE WHILE THE STUDENT IS IN WHARTON  
DOCTORAL PROGRAMS. IN SUCH CASES, THE STUDENT MAY BE HELD TO THE NEW  
STANDARDS/REQUIREMENTS. THIS WILL BE A DECISION BY THE DEPARTMENTAL DOCTORAL  
COMMITTEE AT THE TIME OF POLICY CHANGE.**

## **1. Organization and Governance**

### **1.1. Policy Latitude**

These policies and procedures are not intended to impose uniform regulations over all programs. A program is free to impose stricter policies than the ones laid out here; however, if it does so it is responsible for the administrative control of these policies. Any such policies and procedures must be approved by the Wharton Doctoral Executive Committee prior to implementation, as described below. Moreover, these stricter policies must be recorded in writing and distributed to all students affected when they enter the program. The Ph.D. degree is awarded by the Graduate Council of the Faculties of the University of Pennsylvania. Accordingly, students in the Wharton Doctoral Programs are also subject to the rules and regulations established by that body. These are published in the [PENNBOOK](#)

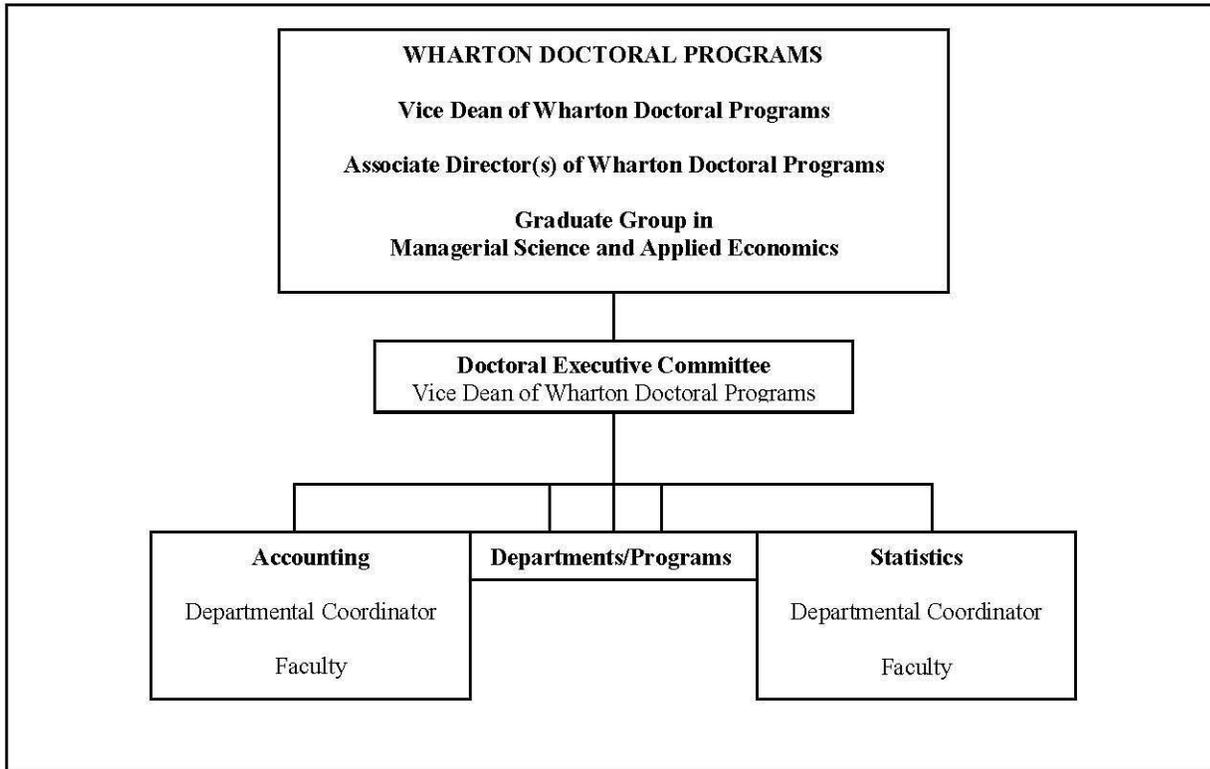
### **1.2. Overall Administrative Structure**

The Wharton Doctoral Programs report for academic matters to the Faculty of the Wharton School and for administration to the Dean of the Wharton School. Matters relating to standards and policies concerning degree requirements are normally decided by the Wharton Doctoral Executive Committee in consultation with the Wharton Faculty, subject to overall guidance and ultimate governance by the Associate Provost for Graduate Education and as advised by the Graduate Council of the Faculties of the University of Pennsylvania.

### **1.3. Organization of the Wharton Doctoral Programs**

**Figure 1** shows the organizational structure of the Wharton Doctoral Programs. Each Department or Program is represented on the Doctoral Executive Committee; normally by the faculty member responsible for Doctoral Programs in the Department or Program in question, (hereinafter we refer to this individual as the Departmental Coordinator). The Doctoral Executive Committee has the primary responsibility for program review, course approvals and other policy matters, subject in certain areas to approval by the entire Wharton Faculty as described in the Policies and Procedures herein.

**FIGURE 1: ORGANIZATION OF WHARTON DOCTORAL PROGRAMS**



Departmental Coordinators have the primary responsibility of conveying the concerns of their respective departments and programs to the Doctoral Executive Committee for advice and consent. They also have primary responsibility for local record keeping and monitoring of students in their respective programs concerning student progress, student advisors and financial aid. Students should normally first consult their Department Coordinator on problems or policy questions that they may have.

At the University of Pennsylvania, the organizations responsible for graduate instruction and the degrees are groups of faculty called Graduate Groups. In many cases, such as history and mathematics, the graduate group has a counterpart department. Other graduate groups do not have a traditional counterpart department or school. Instead, they are composed of appropriate faculty from a variety of existing departments and schools with the aim of enhancing the interdisciplinary nature of the field of study.

The Graduate Group of Managerial Science and Applied Economics covers all doctoral education in the Wharton School and offers programs in accounting, applied economics (includes: business economics and public policy, insurance and risk management and real estate), business ethics and legal studies, finance, health care management and economics, management, marketing, operations information and decisions, and statistics.

**1.4. Course Approvals and Program Structure Changes**

As established by the Wharton Faculty Meeting of January 13, 1987, all changes in courses offered and program structure must be approved by the Wharton Doctoral Executive Committee. Any proposed change that at least one member of the Executive Committee believes to be relevant and important to the whole program (and school as a whole) will also be referred to the Wharton faculty

for consideration. All other changes are approved routinely by the Executive Committee alone, without further consultation or referral to the Wharton faculty.

#### **1.5. Departmental Doctoral Committee**

Each Department Chair\* must appoint a Doctoral Committee each academic year. The committee is made up (ideally) of at least three standing faculty members with the PhD Coordinator acting as the Chair of the committee. The appointment of faculty members who will serve on the Doctoral Committee should be announced to the department faculty and doctoral students each year. Tasks of the committee may include, but are not limited to admissions, dismissal cases, and responsibility for qualifying exams and required summer papers, and required annual student reviews.

\* For the purpose of this paragraph, the Applied Economics doctoral area is considered a “department” and hence needs to have a single doctoral committee appointed by the appropriate department chairs.

## **2. Admissions and Financial Aid**

### **2.1. Program Admission Categories**

An applicant who is accepted for admission to the Wharton Doctoral Programs will be admitted as a regular full-time doctoral student. The Wharton Doctoral Programs has no other category of admissions.

### **2.2. Visiting Doctoral Fellows and Visiting Scholars**

In addition to regular doctoral students, Wharton Doctoral Programs may accept a limited number of individuals as Visiting Doctoral Fellows. These appointments will normally be made in conjunction with a Department, and they are intended for visiting graduate students who have not yet received a Ph.D. Scholars who have received their doctorate and who have specific and limited research and education purposes are also accepted as Wharton Visiting Scholars from other institutions. Such students' stay in the program is usually limited to one year but can be extended to eighteen months. Visiting Doctoral Fellows and Visiting Scholars must have a faculty sponsor in the program before entering. Each application will be decided on an individual basis. Visiting Doctoral Fellows will not be considered for admission as regular doctoral students while they are in residence; that is, they must return to their home country or institution for at least 1 year before applying for admission to the Wharton Doctoral Programs.

### **2.3. Admissions Procedures**

Students enter the Doctoral Program of the Wharton School at the beginning of the Fall term. All applications, together with all supporting material (including letters of recommendation, grade transcripts, and either GMAT or GRE scores), must be received by the Doctoral Programs office no later than December 15 of the year before admission is desired. Exceptions may be made only in special circumstances with approval from the Vice-Dean of Wharton Doctoral Programs.

All applicants are expected to take either the GMAT or the GRE depending on departmental requirements. Except under unusual circumstances, applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL) examination. The admissions process is a multi-step procedure. Applications are viewed by a committee determined within the department, usually consisting of at least the Doctoral Coordinator and a few other faculty members. Candidates approved from that body are then sent to the Vice-Dean of Wharton Doctoral Programs for approval. Approval of both the department and Vice-Dean is required.

### **2.4. Funding**

Students admitted to most Ph.D. programs receive multi-year financial packages to cover tuition, fees, health insurance and a living allowance or stipend. The terms of the award may vary according to field of study, and within department. Contact individual programs for details. Time until completion of the PhD degree, while it varies by field, is typically 5-6 years for a student entering with a bachelor's degree.

The form of the support is determined by the student's department. Support of continuing students' funding will be decided jointly by the Doctoral Programs Office and the given student's department. Good standing (*See section 6.1 Dissertation Proposal Phase*) in the program is required for both continuation and funding.

### **3. Active Status, Leaves, Program Transfers, Student Contact Information**

#### **3.1. Maintaining Active Status**

Matriculated students are expected to register every semester for either course work or dissertation status. The exception to this rule is an approved leave of absence while students are on course work. During dissertation status, students are permitted to take a medical leave, FMLA, or military leave only. Students who are not on an approved leave of absence and who have not registered for any one semester will be considered to have withdrawn from the program. To maintain a student visa, international students must be enrolled for at least three courses per semester, or be on dissertation status.

##### **3.1.a. Full-Time Status**

Students enrolled in the Wharton Doctoral Program must maintain full-time enrollment throughout their time in the program. Full-time enrollment is defined as a minimum of 3 CU's or Dissertation Status, as appropriate in their doctoral education plan. Students are eligible to enroll in 1 CU per semester upon entering Dissertation Status.

##### **3.1.b. Add/Drop Courses**

Students may add/drop courses within the designated Wharton Doctoral Programs add/drop dates. Should a student wish to drop a course after the add/drop date, they must send written approval from the instructor of the course and PhD coordinator of their home department to the Wharton Doctoral Programs Office. A student may only drop a course if it does not drop them below 3 CUs.

##### **3.1.c Course Load**

The maximum course load per term is four course units per term for doctoral students. A doctoral student may register for a fifth course unit as AUDIT ONLY with permission of the Vice Dean of the Doctoral Programs. PhD students may AUDIT ONLY ONE COURSE PER TERM. If departments require additional coursework, the student will be notified by their department coordinator.

#### **3.2. Tuition Policies\***

Tuition and fees are due in August for the Fall term and in January for the Spring term for those students not covered by tuition remission. No students will receive tuition remission beyond their 5<sup>th</sup> year in the program, if applicable, unless approved by the Vice-Dean of Wharton Doctoral Programs. Students on dissertation status beyond their 5<sup>th</sup> year must pay the reduced tuition and fees. Students and candidates who fail to pay their tuition or dissertation fee for any semester will be considered to have withdrawn from the program. Students who have withdrawn must reapply for admission in order to regain active status in the program.

\*See [The PennBook | Academic Rules for PhDs and Research Master's Degrees](#) for more information on the University of Pennsylvania tuition policies for Ph.D. students.

#### **3.3. Leaves of Absence**

Leaves of absence are only granted under extenuating circumstances to students who are in good standing. Leaves are usually allowed for a period of one semester to one calendar year. Personal leave for other reasons may be granted for up to one year with the approval of the Graduate Dean, but it does not automatically change the time limit. Additional requirements for return may be imposed by the Graduate Dean. Leaves of absence will not be granted for a total of more than three years. A leave of absence can only be considered for students who have completed at least one semester of the Program.

Categories of leaves:

Personal– students deciding to leave the University for Military Service or to pursue other personal goals and matters.

Medical– students with a medical situation that will temporarily interfere with their studies. Students requesting a leave of absence for medical reasons must provide documentation by their treating clinician at the time of the leave request. The supporting documentation should not reveal any details regarding the student’s condition.

Family– See section 3.3a.

To request such a leave, the student must complete a [LEAVE OF ABSENCE REQUEST FORM](#) and submit it to the Wharton Doctoral Programs office. It should include the reason for requesting the leave, the time period sought, and the student’s plans for returning to the University to complete the requirements for the degree. Before a leave is granted, it must be approved by the Department Coordinator in the student’s concentration or program as well as by the Vice Dean. Time spent on an officially approved leave of absence is not counted in the eight-year time limit on degree completion.

Once approved for a leave of absence, the student will receive a leave of absence approval letter from the Department PhD Coordinator outlining the required conditions to return from leave. These conditions include identifying the date of return, providing supporting documentation from physician if on a medical or family leave to be sent to Student Health Services, acknowledgement of future academic requirement deadlines to meet, and other conditions placed by the Department Coordinator.

While on a leave of absence, students may not register for courses, submit assignments to faculty, request a change of grade, hold dissertation hearings, sit for exams or graduate. Additionally, students on a leave of absence do not have access to Penn. Students on an approved leave of absence who wish to retain access to Penn’s facilities (in particular, the library) must pay a fee per term of absence. Access to Wharton specific resources is at the discretion of each department.

Students returning from leave must inform the Wharton Doctoral Office and their Department Coordinator of their return within 30 days of the start of the semester in which they will be returning. Students will not be permitted to return from leave unless the conditions in the leave of absence approval letter have been met prior to their return. Once written permission has been granted by the Vice Dean for the semester(s) in question, the Wharton Doctoral Office will reactivate the student and the department administrator will register the student.

### **3.3a [Family Friendly Policies for PHD Students](#)**

#### **New Parent Accommodation**

A student in a Ph.D. program at Penn is eligible for time off of eight weeks for the birth or adoption of a child. The student must complete the [online New Parent Accommodation/Family Leave Request Form](#) at least 60 days prior to the anticipated start date of the leave so that appropriate arrangements can be made to cover any teaching/research responsibilities.

The graduate group chair and dissertation advisor will be notified via email of the details of the student’s accommodation request. The graduate group is responsible for making the necessary arrangements within their department and school.

- A. Normally the “Time Off” period commences within two weeks of the birth or adoption.
- B. During the “Time Off” period, the student remains enrolled full-time. In order to facilitate a rapid return, s/he may participate in the program as fully as s/he deems appropriate. By remaining on full-time status, student visa status and loan repayment schedules, if any, will remain unchanged.
- C. The student is entitled to academic accommodation including relief from academic requirements, such as postponement of exams and course requirements.
- D. A student receiving stipend support is entitled to continuation of support during the “Time Off” period as follows:
  1. Students receiving stipends from University/school funds are entitled to draw support for eight weeks during the academic year.
  2. Students funded by government grants or other external funding sources are entitled to benefits as determined by the funding agency.

#### Family Leave of Absence Policy

A student in the Ph.D. program at Penn may take an unpaid Family Leave of Absence for the birth or adoption of a child, child care, or care of an immediate family member (spouse, domestic partner, child, or parent) with a serious health condition.

The graduate group chair and dissertation advisor will be notified via email of the details of the student’s leave request. The graduate group is responsible for making the necessary arrangements within their department and school.

- A. Students may take a Family Leave of Absence for one semester or for two semesters.
- B. The student must complete the [online New Parent Accommodation/Family Leave Request Form](#) at least 60 days prior to an anticipated leave so that appropriate arrangements can be made to cover any teaching/research responsibilities. In unanticipated and/or emergency situations, students should fill out the form as soon as possible.
- C. Family Leave “stops the clock” on the student’s academic requirements, including service requirements, for the duration of the leave.
- D. During the period of Family Leave, the student may arrange to continue Student Health Insurance, but is responsible for the payment of his or her own premiums. Upon paying a fee, students on approved Family Leave will retain their PennCard, e-mail accounts, library privileges, and building access.
- E. Funding commitments from the institution are deferred until the student returns from Family Leave. Students receiving funding from external sources, such as government grants, are subject to the conditions established by the funding source.
- F. Service requirements (e.g., teaching, research) will be met by the student following return from Family Leave.
- G. Requests for extension of Family Leave beyond one year, or for repeated Family Leaves, may be made. Approval of an extension, deferral of funding, and continued academic accommodation is at the discretion of the Graduate Dean.

*\*Important:* If you anticipate adding a dependent (e.g., newborn) to your Penn Student Insurance Policy while on Family Leave, you must remain in active student status at the start of the fall semester. Students should arrange with their school/division to maintain full-time student status for at least 31 days from the start of fall classes, after which time the Family Leave status can be recorded in the Student Records System. After the birth/adoption, contact the SHS Insurance Coordinator to enroll the dependent. The premium for dependent coverage is payable directly to Aetna Student Health.

#### **3.4. Funding Policy on Maternity/Paternity Accommodations**

Wharton Doctoral students who anticipate a need for maternity/paternity “extended funding” (beyond

their allotted funded years) are eligible to apply for a “Funding Extension” period. Eligible students should complete and submit the approved Maternity/Paternity Funding form Within 60 days of the life event occurring. Students are encouraged to speak with their Doctoral Coordinator to explore their options for accommodation for any time-off periods.

### **3.5. Summer External Employment Policy**

Students are expected to remain in good standing with their department and meet all academic goals and requirements in a timely manner. Students who may seek external employment during the summer months must seek the approval from their Doctoral Coordinator. It is the student’s responsibility to remain transparent regarding the terms, conditions, and compensation of any summer employment. The Coordinator will assess whether there is a conflict between the summer employment and the student’s progress within the Wharton Doctoral Programs.

### **3.6. Transfers between Wharton Doctoral Programs**

Any student currently enrolled in a graduate program within either the Wharton School, or elsewhere at the University of Pennsylvania, who wishes to transfer to a different doctoral program/concentration within the Wharton School must inform their current program and then apply for admission to that Wharton doctoral program. All transfers from outside the Wharton school must go through the normal Wharton admissions process.

### **3.7. Change of Address**

Regardless of whether a student in the doctoral program is on or off campus or on a leave of absence, it is the student’s responsibility to stay in touch with his or her advisor and to notify the Doctoral Programs Office of any change of address that may occur. It is also the student’s responsibility to see that he or she remains current on any changes in the program rules or regulations.

### **3.8 Wharton Email Address**

All email communication to students will be sent primarily to the students’ university assigned email address (in most cases, wharton.upenn.edu). It is the student’s responsibility to check their university assigned email account for important information.

#### **4. Transfer of Course Credit\***

##### **4.1. Credit for Graduate Work at Other Universities**

Students may receive up to eight units of credit for graduate work at other universities. Specific departments may set lower limits. A student who desires credit for previous course work should submit a request for transfer credit form to his or her Departmental Coordinator. That request should be submitted during the first year in the program. Credit may be transferred toward the Ph.D. from a master's degree or other work completed in a post-baccalaureate degree program. No work done as an undergraduate (including graduate level courses), whether at this institution or at any other, will be counted toward a Ph.D., A.M., or M.S., with the following exception: graduate courses completed by undergraduates as submatriculants in a graduate group may be counted toward graduate degree requirements.

Students must complete a Request for Approval of Transfer Credit form and submit it along with a copy of the transcript from where the transfer is being requested to the PhD Coordinator. The Coordinator will decide whether to grant credit based on the standards of the previous work and its relevance to the student's program. The Coordinator's recommendation for transfer credit should be sent the Wharton Doctoral Programs Office for Vice Dean Approval. The decision of the Coordinator is final, but it must be filed in the student's folder in the Doctoral Programs Office. Transfer credits will be posted once a student has passed the qualifying exams.

##### **4.2. Credit for Courses Taken in the Wharton MBA Program**

Precisely the same rules as above apply to transferring credits from the Wharton MBA Program. Upon the Coordinator's approval of MBA course work based on standards, relevancy, and departmental rules, a maximum of eight MBA course credits may be transferred. No MBA courses will be transferred with a grade below an A- (or its equivalent) as above. The request for such a transfer should be submitted during the student's first year in the Ph.D. Program.

## 5. Requirements and Monitoring

### 5.1. Phases of the Program

The Wharton Doctoral Programs consist of two distinct phases: pre-candidacy and candidacy.

During the pre-candidacy phase,

- student completes the required course-work\*
- qualification examinations,
- any requirements imposed by the student's specific Department or Program such as additional qualifying examinations and research papers.

\*A student may register for one or two required courses while on dissertation upon the approval of their PhD Coordinator.

The Coordinator will review the student's record to confirm that all pre-candidacy requirements have been met. Upon satisfying these requirements, prior to the start of each semester, the Department must inform the WDP Office of any students entering dissertation status.

The candidacy phase comprises

- preparation and defense of the dissertation proposal,
- doctoral dissertation (see below and in Section 6 of this document), and
- final defense of the dissertation.

Students are eligible to enroll in 1 CU per semester upon entering Dissertation Status.

#### **\*DISSERTATION**

The student and dissertation supervisor meet regularly (at least twice a year and, in many cases, much more frequently) to establish expectations and review the progress of the student's research.

Upon advancement to candidacy, each student has a Dissertation Committee consisting of at least three faculty members (including at least two members of the Wharton graduate group), which may include the Supervisor/Advisor. At least half of the members of the Dissertation Committee must be members of the graduate group at the time of appointment to the committee. Faculty who are not members of the graduate group may serve only with the written approval of the graduate group. The authority to approve membership on committees may be delegated to the graduate chair.

The Chair of the Dissertation Committee must be a member of the Standing Faculty in the graduate group. If the Chair of a Dissertation Committee leaves the Standing Faculty before the dissertation is completed, then a new chair from the Standing Faculty in the Graduate Group must be appointed as chair. The Dissertation Committee chair is responsible for convening committee meetings, advising the student on graduate group and university expectations, and assuring the graduate group chair that the group's requirements have been met. The Dissertation Supervisor may serve as Chair of the Dissertation Committee, but is not required to do so.

The Dissertation Supervisor is the person primarily responsible for overseeing the student's dissertation research. A student may have both a Dissertation Supervisor and a Dissertation Co-Supervisor, or two Dissertation Co-Supervisors, if that responsibility is shared equally.

Dissertation Supervisors, and Dissertation Co-Supervisors, must be members of the Standing Faculty at Penn, with special approved exceptions. A member of the Associated Faculty (such as Research Faculty or

Adjunct Faculty) may be permitted to serve as a Dissertation Supervisor with prior approval of the Vice Provost for Education on a case by case basis. The Graduate Group Chair may petition the Vice Provost for Education, in advance, for an exception. In such cases, a member of the Standing Faculty in the graduate group must be appointed as the Dissertation Committee Chair.

The Dissertation Committee meets at least once annually with the student to review the student's progress. The student prepares an annual Dissertation Progress Report and the committee gives timely feedback (within one month) and confirms whether progress is satisfactory. A copy of the signed progress report submitted to the Supervisor/Advisor and PhD Coordinator. Dissertations based on joint work with other researchers are allowed, if, in such cases, a unique and separate dissertation is presented by each degree candidate. The candidate must include a concise account of his or her contribution to the whole work. Authorship of a dissertation by more than one-degree candidate is not allowed.

### **5.2. Annual Performance Reviews**

The Doctoral Coordinator will conduct an annual review of each student's performance. The review will be conducted at the end of the Spring term and, except under unusual circumstances, will be completed by June 30. The review will encompass the students' grades including incompletes, preliminary and qualifying examinations, required papers and other relevant benchmarks. Where necessary, the Coordinator will meet with each student to discuss the results of the review and recommend appropriate remedial action. The Coordinator will inform the student in writing of the result of his or her performance review. Within ten days after the review, students who have missed or failed preliminary examinations must execute agreements for taking the exams by specific dates to be approved by the Coordinator.

### **5.2a Academic Standing**

#### **Academic Good Standing:**

In order to remain in good academic standing, the following requirements must be completed successfully within the timeframe outlined in this handbook and/or dictated by the student's department policies:

1. Maintaining a minimum GPA of 3.0
2. Required coursework
3. Summer research papers
4. Qualifying exams
5. Proposal defense

Each requirement may affect good standing in different ways per the individual departments. Some departments may have additional requirements to remain in good standing. Please consult your PhD Coordinator for good standing requirements.

#### **Academic Probation and Withdrawal:**

Students not making satisfactory academic progress may receive a warning or be placed on probation. In the absence of improvement in the subsequent semester or within the timeframe outlined by their PhD Coordinator, students on warning or probation may be dropped from their program.

### **5.3. Grade Standards**

At the end of the Spring term of every year, each student's grade performance for the previous twelve months will be reviewed. A student who does not achieve at least a B average for all courses taken or reported during that twelve month period (including final grades for incompletes for previous work) will

normally be asked to leave the program. For purposes of computing an average, the grade suffixes “+” or “-” count as one third. A student achieving less than the B average described above must submit a written statement in support of his or her continuation in the program. Failure to initiate the written appeal results in an automatic withdrawal from the program by the start of the next academic year. **The** Departmental Coordinator is responsible for seeing that the faculty in the student’s concentration or program review the student’s performance and make a recommendation as to whether the student should be permitted to continue in the program. They will also determine what conditions, if any, must be met over and above the School’s and the program’s usual requirements. The faculty’s recommendations should then be passed on to the Vice Dean of the Doctoral Programs, who will determine whether the student is to be terminated or not. Permission to continue will be granted only under the most extenuating circumstances and only when the actual average is quite close to B.

### **5.3.a. Incompletes**

The mark of I is used to designate “incomplete.” A student who fails to complete a course and does not withdraw or change his/her status to auditor within the prescribed period shall receive at the instructor’s discretion either a grade of I (incomplete) or F (failure). It is expected, in general, that a student shall complete the work of a course during the term in which that course is taken. The instructor may permit an extension of time up to one year for the completion of the course. In such cases, any course which is still incomplete after one calendar year from its official ending must remain as “incomplete” on the student’s record and shall not be credited toward a degree.

### **5.4. Statistics Requirement and Other Required Courses**

According to the requirement established by the Wharton Faculty in the November 4, 1986, meeting, as elaborated and approved by the Policy Committee on February 5, 1987, all Wharton doctoral students must demonstrate competency in statistics. Departments may establish special requirements for their students depending on their area of specialization. All students, however, are required to demonstrate proficiency in the material covered in one of the following course combinations:

- 1. STATISTICS 500 and 501 (or PSYCHOLOGY 611 and 612)**
- 2. STATISTICS 515 and 516**
- 3. STATISTICS 520 and 521**
- 4. STATISTICS 970 and 971**
- 5. ECONOMICS 705 and 706**
- 6. SOCIOLOGY 536 and STATISTICS 501**

**\*Non-statistics Wharton PhD students may take STAT 927, 961, 962 and STAT 542 as electives only after fulfilling one of the required course combinations listed above. Students who would like to take these courses are required to ask for an interview with the instructor and receive his/her permission.**

Descriptions for each course may be found in the University Course Register on the Registrar’s website: <http://www.upenn.edu/registrar/>

Exceptions to these sequences, or the ability to “mix and match” courses from these sequences, is allowed- however, must receive written approval from the current doctoral coordinator of the statistics department program.

The student must obtain a grade of B- or better in the required statistics courses, or pass a waiver examination. Alternatively, departments may establish student competency in statistics by a preliminary examination, administered by the Economics or Statistics Department as appropriate, covering all the material of their required course sequence.

Current guidelines and procedures for retaking preliminary examinations will prevail for the statistics waiver exam. In particular, no student will be allowed to take the examination more than twice, except under unusual circumstances, as decided individually by the Vice Dean and the Departmental Coordinator. Similarly, the student must obtain a grade of B- or better in other courses required by departments. Alternatively, departments may establish student competency in those other required courses by a preliminary examination administered by the departments.

### **5.5. Qualification Examinations**

Qualification examination requirements vary by Department. Students should consult their department's section of this handbook for the requirements of specific Departments (and the materials in the appendices to this document). A qualification examination is defined as an examination or series of examinations designed to test the student's mastery of the subject matter in a given field of study. Administratively, a qualification examination is any examination, which must be completed after enrollment in the program in order to gain admission to candidacy. A doctoral program student who twice fails any qualification examination required by the student's department or program will ordinarily be dropped from the program. However, a student who fails twice may, under extenuating circumstances, appeal for a third opportunity to take the examination. The appeal should be addressed in writing to the Departmental Coordinator in the student's concentration or program. First, the Coordinator must evaluate the request and submit a written recommendation to the Vice Dean of Doctoral Programs. Second, the appeal must be evaluated by the Vice Dean.

In order for the student to be granted a third opportunity to take a qualification examination, the student's appeal must be approved by both the Coordinator and the Vice Dean. Appeals will only be considered for possible approval in situations where there are extenuating circumstances. The student's written appeal should clearly state special conditions that the student feels justify the request.

### **5.6. Student Development**

#### **Communication Workshop**

The communication workshop is held during the student's first year and is a half-day workshop on communications skills that is meant to both educate the doctoral student and make him/her aware of areas of needed improvement. This workshop is mandatory and is part of the introduction to Wharton's Doctoral Programs.

#### **Teacher Development Program (TDP) or TA Training + Workshop through Center for Teaching and Learning**

All PhD candidates in the Wharton Doctoral Programs are required to participate in a Teacher Development Program (TDP) or TA Training + Effective Lecturing Workshop

- If you are in **Applied Economics, Finance, Management, OID, or Statistics**,
  - You will be required to complete the 3-day TA training at the beginning of the academic year
  - You will not be required to complete the four-module TDP workshop
  - In addition to TA Training, you will be required to complete a one-time session on effective lecturing that is not covered in the TA training if you have not already completed TDP.
  - If you have already completed TDP but not TA training, you MAY be waived out of TA training unless TA training is specifically required for a course you are TA-ing. Please consult with your PhD Coordinator regarding this requirement.
  
- If you are in **Accounting, Ethics and Legal Studies, Health Care Management and Economics, or Marketing**

- You will be required to complete the four-module TDP workshop

TDP is a four-module workshop and has the focus to enable doctoral students to improve their presentation skills, with the intent of improving academic job placement. In particular, most students will use TDP to help improve their academic job talks when going on the job market.

Doctoral candidates are encouraged to participate in the four-module workshop in their third year or later, but in some cases departments may wish for second year students to take it. Occasionally, waivers for the four-module workshop may be granted by a given department's doctoral coordinator under the following conditions:

- Significant prior teaching experience
- Recognized teaching awards
- College-level education courses
- Verification of completing the TA training held through the Center for Teaching and Learning (you will still need to complete the one-time session on effective lecturing)

These waivers will be granted by individual departments. The department waiver, if given, must be registered with the Wharton Doctoral Office in writing.

#### **Writing Support and Coaching**

Lynn Selhat provides one-on-one coaching for doctoral students. One-on-One Coaching includes structural help: positioning an argument, creating a logical flow, organizing the introduction and copy editing: cutting to fit length requirements, tightening for better flow, editing for more active and clear language. [Please check with your department for any required writing coaching for research or job market papers.](#) For writing support, please contact Lynn directly at [selhat@wharton.upenn.edu](mailto:selhat@wharton.upenn.edu)

#### **5.7 University PhD Degree Requirements**

Above and beyond requirements stipulated in this document, the University of Pennsylvania has guidelines for PhD requirements. A more detailed description can be found at the provost's website: [http://www.upenn.edu/provost/educational\\_policies\\_publications](http://www.upenn.edu/provost/educational_policies_publications).

## **6. Dissertation Stage\***

Writing a dissertation is an intense process of interaction between the student, the dissertation advisor and other interested faculty. The formal process takes place in two phases. In the first phase, the student prepares a proposal indicating the nature of planned dissertation research and its intended contributions. In the second phase, after the proposal has been approved, the dissertation research unfolds under the careful guidance of the student's dissertation advisor

\*Refer to section **5.1 Phases of the Program** under **Section 5 Requirements and Monitoring** above.

### **6.1. Dissertation Proposal Phase**

For a student to remain in good standing, the student must defend a dissertation proposal by the end of the fourth year in the program, unless otherwise specified by their department. Approval to extend the dissertation proposal defense to the fifth year may be granted by the PhD Coordinator under individual program curriculum guidelines or requirements.

The student is encouraged to consult faculty members with whom he or she shares research interests to seek their advice and assistance in formulating a dissertation proposal topic. After consultation with the student and interested faculty members, the Departmental Coordinator in the student's concentration or program will (formally) appoint a dissertation advisor. Of course, the choice of advisor is ultimately up to the student, but it must be approved by the given department's coordinator. The advisor has primary responsibility for advising the student on the dissertation. The preparation of a dissertation proposal should begin relatively early in the student's studies in order for the student to have early feedback on the feasibility and desirability of planned dissertation research. The primary purpose of the dissertation proposal is to provide constructive feedback to the student. The proposal does not constitute an implicit or explicit contract on the ultimate content or acceptability of a dissertation. This can only be decided as part of the evolving dialogue between student and faculty members as the dissertation research proceeds. In consultation with the student, the advisor will recommend a dissertation committee.

#### **6.1.a Dissertation Committee**

The function of the committee is to provide advice concerning the research, to participate in the proposal defense and dissertation defense, and to decide whether the proposal and the dissertation satisfy the standards of the Wharton Doctoral Programs. The dissertation committee shall consist of no fewer than three members, including the dissertation Advisor, and no more than five members.

- At least three must come from the standing faculty of the University of Pennsylvania
- No more than one committee member may come from outside the University of Pennsylvania.\*
- A clear majority of the committee, including the committee chair, must come from the standing faculty of the Wharton School. If there are four members in the committee, half must be from Wharton
- At least two standing faculty members must hold primary appointments within the department of the student's specialization.

#### **Committee Member Role Definitions:**

**Supervisor/Advisor/Co-Supervisors** - primary responsibility for advising the student on the dissertation (necessary)

**Chair** - must be standing faculty and within Wharton graduate group. Responsible for convening committee meetings, advising the student on graduate group and university expectations, and assuring the graduate group chair that the group's requirements have been met. The committee chair does not have to be the primary dissertation advisor. Your advisor can serve as chair.

**Committee** - provide advice concerning the research, to participate in the proposal defense and dissertation defense, and to decide whether the proposal and the dissertation satisfy the standards of the Wharton Doctoral Programs

\*Students must complete a separate request for approval of external committee member form

EXAMPLE OF MARKETING DEPARTMENT DOCTORAL STUDENT DISSERTATION COMMITTEE:

**Chair and Committee Member:** Professor Eric Bradlow, Marketing

**Dissertation Advisor and Committee Member:** Professor Patti Williams, Marketing

**Committee Member:** Professor Noah Gans, OIDD

- All committee members are standing faculty of the University of Pennsylvania
- All committee members are Standing faculty of the Wharton School including chair
- Two members hold primary appointments in the same area (Marketing)
- A member outside the University of Pennsylvania could be a member of this committee but is not a requirement for the composition of a complete committee.

The committee chair is responsible for convening meetings, advising the student on rules, and advising the Vice Dean of the Wharton Doctoral Programs that all graduate group requirements have been met. The student's primary advisor may serve as committee chair provided the primary advisor is a member of the standing faculty of the Wharton School.

Students must complete the Request for Appointment of Dissertation Committee form and have it first approved by their department coordinator. The Coordinator will recommend any changes in the committee that he or she deems appropriate. After approval of the committee by the Department Coordinator, the student will submit the Request for Appointment of Dissertation Committee form to the Wharton Doctoral Programs office for the Vice Dean for approval.\* The Request for Appointment of Dissertation Committee form must be submitted to the Wharton Doctoral Programs Office no later than two weeks prior to the proposal defense date. The Vice Dean will normally approve the committee makeup, assuming only that it follows these guidelines concerning its membership. These rules for approval also apply to the replacement of committee members who are unable to continue to serve on the committee.

**\*Form for Committee Approval may be downloaded from the Wharton Doctoral Inside.**

When the student has developed a written dissertation proposal that the advisor judges is ready for oral defense, a formal proposal defense before the dissertation committee is held. The defense cannot occur until the student has been admitted to candidacy. All interested faculty and doctoral students are invited and encouraged to attend the proposal defense, but the decision to accept or reject the proposal rests with the dissertation committee, who will communicate their decision in writing to the Vice Dean of the Doctoral Programs. All members of the dissertation committee shall vote to approve or not approve the dissertation proposal. At least three committee members shall be present for the proposal defense. At least three committee members must approve the proposal. Following approval of the proposal, the candidate enters the dissertation phase.

### **6.2. Dissertation Phase**

When the dissertation is judged complete by the candidate's advisor, it must be defended orally in a final dissertation defense before the dissertation committee. Any changes in the composition of the dissertation committee since the approval of the proposal should be submitted to the Vice Dean, in writing, by the dissertation advisor. The same rules for composition of the committee, voting, and committee attendance at the final dissertation defense apply as for the proposal defense. Although other faculty members are encouraged to participate in the defense, the decision to accept or reject the dissertation is made by the dissertation committee only, and is to be communicated in writing to the Vice Dean. A positive vote from at least three members of the dissertation committee is required for the dissertation to be approved.

### **6.3. Announcement of Defense**

In order to encourage maximum participation of interested faculty and students, as well as to encourage scholarly interaction and inquiry, proposal defenses and final dissertation defenses must be publicly announced at least two weeks in advance of their occurrence. If required by the student's department, an electronic copy of the proposal or the dissertation must be available for inspection with the Departmental Coordinator and the during the two-week period prior to the proposal or dissertation defense.

**6.3.a Dissertation Committee at Defense**

All dissertation committee members should be physically present during the time of defense. No more than one committee member can remote (audio/video) into the defense.

**6.4. Dissertation Defense Timeline/Checklist**

See Wharton PhD Programs Degree Information located at the [Wharton Doctoral Programs Inside website](#)

All questions regarding Degree Requirements and Graduation requirements should be directed to Gidget Murray [gmurray@wharton.upenn.edu](mailto:gmurray@wharton.upenn.edu) the Wharton Doctoral Programs office.

**6.5. University Dissertation Manual**

University format requirements for the dissertation are documented in the Dissertation Manual [http://www.upenn.edu/provost/dissertation\\_resources](http://www.upenn.edu/provost/dissertation_resources)

## **7. Time Limitations** (see University Graduate Rules)

<http://www.upenn.edu/provost/academic rules>

Students must complete **all** course work qualification examinations, and the dissertation requirement within 16 terms, (excluding summer) period from the date of their matriculation, excluding leaves of absence. Except in unusual circumstances, students will be expected to gain admission to candidacy status prior to the end of their fourth year in the program (excluding leaves of absence). Requirements for admission to candidacy are filed in section 5 of this manual.

If a student has not completed all requirements for the Ph.D. (including deposit of the dissertation) at the end of the fifth year after beginning dissertation candidacy, he or she must submit to the full dissertation committee, within two months of completing that fifth year, a copy of all written work completed to date on the dissertation. If the student is unable to construct such a committee, he or she will be dropped from the doctoral program. The committee members will evaluate this material, and report to the department Doctoral Coordinator and to the Vice Dean for the Wharton Doctoral Programs, recommending that one of the following actions be taken:

Students who have not completed their dissertation requirement within the eight-year time limit will be dropped from the Wharton Doctoral Programs. Students who are at the dissertation phase and are dropped due to the eight- year time limit may, however, at some later date graduate from Wharton's Doctoral Programs if they meet the following conditions:

- have been admitted previously into candidacy;
- have successfully completed the dissertation proposal phase prior to the expiration of the 16- term limit;
- the relevancy of their research and training has been certified by the dissertation committee, as described in the preceding paragraph;
- dissertation is approved by an appropriately constituted faculty dissertation committee

More detailed information is found at the University of Pennsylvania Provost website under

**University Academic Rules on Time Limits and Tuition:**

<http://www.upenn.edu/provost/PennBook/academic rules for phds and research masters degrees>

The faculty is under no obligation to provide advice to former students who have not completed their dissertation requirement within the 16-term time limit.

## **8. Appeals, Academic Responsibility and Grievances**

### **8.1. Appeals**

Students or Faculty who wish to appeal a specific decision made under the rules stated in this document should file an appeal in writing with their Departmental Coordinator, with a copy to the Vice Dean of the Wharton Doctoral Programs within 30 days after initial decision has been made. Appeals will be handled by the coordinator in consultation with the Vice Dean. The final decision on an appeal rests with the Vice Dean, who may consult the Doctoral Executive Committee specific matters. Of course, a student also has the right to appeal the Vice Dean's decision to the Dean of the Wharton School and to other University grievance committees appropriate to the particular substantive issues of the student's appeal.

### **8.2 Academic Responsibility, General Conduct and Disciplinary Procedures**

The mission of the Wharton School Doctoral Code of Ethics ("Code") is to promote the growth of ethically responsible scholars through adherence to the highest standards of academic integrity and overall ethical conduct, to develop a sense of individual responsibility on the part of each member of the Wharton doctoral community, to participate actively in maintaining such standards, to foster an environment of honor and trust within the Wharton community, and to engender respect for the ethical standards of the Wharton graduate. Fulfilling this mission is a collective responsibility of the members of the Wharton doctoral community.

The Wharton doctoral student will maintain the highest standards of honesty and integrity. The student will strive for these standards in his or her representations, academic pursuits, and respect for the property and individual rights of others; will uphold the specific principles described in the Code; and will actively support the Code. Standing in the Wharton doctoral community will be subject to adherence to these basic principles of ethics. The Code will be administered and maintained by a Wharton Doctoral Division, under the direction of the Vice Dean for Doctoral Studies upon recommendations of the Ethics Committee of faculty and student representatives.

#### **8.2.a SPECIFIC STANDARDS**

**(i) Representations:** The Wharton doctoral student is expected to represent him or herself honestly in all oral or written statements. The student will not misrepresent any material fact to other students, faculty, staff, prospective employer, or anyone else while representing himself or herself as a member of the Wharton community, especially through, but not limited to:

- Lying to prospective employers, either directly through oral or written statements or indirectly through misrepresentation of background in resume;
- Misrepresenting any material fact on a Wharton application, financial aid form, or other official document;
- Lying to a fellow student, a faculty member, or an administrator in order to gain preferential treatment; or
- Misrepresenting the originality of one's work, including failure to cite the contributions of another (plagiarism);
- Giving or receiving any unauthorized aid on an assignment or exam, including working in group on any assignment that has been designated as individual by the professor;
  - Failing to comply with the academic guidelines established by the instructor for assignments;
  - Continuing to write after time has been called on an exam; or
  - Submitting for credit substantially the same work done for another assignment either academic or professional, except with prior approval of the instructor.

In the absence of clear guidelines regarding an assignment, presentation, examination, or other academic submission, the Wharton doctoral student is expected to seek any and all necessary clarification from the instructor.

**(ii) Academic Pursuits:** The Wharton doctoral student is expected to represent his or her academic product honestly and fairly. The student will not use any method to gain an unfair advantage over other students in academic pursuits.

**(iii) Property:** The Wharton doctoral student is expected to respect the materials, data, and property of other members of the Wharton community and visitors to the Wharton School. The student will not misuse or misappropriate the materials, data, or other property of another, especially through, but not limited to:

- Accessing, removing, or destroying any information, materials, or other property from another student's or student organization's premises, locker, computer files or mail folder without prior permission-
- Accessing or removing without prior permission, or hiding or destroying any corporate records, files, job postings, or academic materials from the library, or any other administrative office;
- Divulging or distributing proprietary or confidentially provided information obtained for class assignments; or
- Utilizing for commercial gain any material provided to Wharton specifically and restrictively for educational purpose without prior permission of the provider.

**(iv) Individual Rights:** The Wharton community is committed to an environment free from discrimination and harassment of any kind. The Wharton doctoral student is expected to respect the individual rights of others. Specifically, Wharton students will observe the University of Pennsylvania policies against physical intimidation, verbal harassment, and discrimination. Any complaint of a violation of these policies should be brought to the attention of the Vice Dean and Director of the Wharton Doctoral Programs.

#### **8.2.b STANDING IN THE COMMUNITY**

A doctoral student who accepts and adheres to the standards discussed above will remain in good ethical standing within the Wharton community. If a student fails to adhere to the Code, the student may be sanctioned. Any sanction will be enacted upon the recommendation of an Ethics Committee at the discretion and action of the Vice Dean of the Wharton Doctoral Division ("Vice Dean").

In deciding what sanctions to recommend, the Committee will consider all relevant circumstances, including the severity of the violation involved. Appropriate sanctions include, but are not limited to the following: Letter of Reprimand, Probation, Suspension, and Expulsion. All students matriculating in the Doctoral Division must comply with the standards set forth in the Doctoral Code of Ethics and the Policies on Conduct of the University of Pennsylvania.

#### **8.2.c ADMINISTRATION OF THE CODE**

**(i) Composition of the Ethics Committee:**

The Committee will comprise three faculty members and one doctoral student selected by the Vice Dean of the Wharton Doctoral Division from the current membership of the Wharton Doctoral Executive Committee. One member of the Ethics Committee will be the graduate group coordinator from the student's graduate group, unless in the judgment of the Vice Dean that faculty member has a potential conflict of interest with respect to the outcome of the case. The Committee will be constituted for the duration of the student's case, but will be dissolved upon the completion of the case. The Committee shall select one of the faculty members to serve as Chair of the Committee.

**(ii) Responsibilities of the Ethics Committee:**

The Committee shall be responsible for hearing and resolving the assigned complaint(s) of misconduct. The Committee will hold a closed hearing to hear the complaint and to allow the student an opportunity to reply to the complaint. Hearings are not intended to be judicial in nature. The complaint(s) is not required to attend this hearing. The student may have an advisor present at the hearing. The advisor is to be a member of the University of Pennsylvania community and may be a student, faculty member, or administrator chosen by the student. If criminal

charges are pending or reasonably in prospect, the student is entitled to be advised by an attorney.

The role of the advisor, including legal counsel when appropriate, is to advise the student. The advisor is not to speak for the respondent nor have an active role in the hearing. Within two weeks of the completion of the hearing, the Ethics Committee will draft a written recommendation for consideration by the Vice Dean of the Doctoral Program. The recommendation should summarize the complaint, the student's response to the complaint, and the Committee's findings of fact and reasons for the Committee's recommendation. The recommendation may, or may not, propose a specific sanction. It is understood that any recommendation sanction will not be binding on the Vice Dean.

Upon receiving the recommendation from the Ethics Committee, the Vice Dean will render a ruling in the case in a timely fashion, and in the event a violation of the Code of Conduct, impose an appropriate sanction upon the student. The Vice Dean will inform the student of the decision in writing. The Vice Dean's decision and the recommendation of the Ethics Committee will be forwarded to the Deputy Dean of the Wharton School. In the event of a finding of an Ethics Code violation, the student shall receive a copy of the Ethics Committee's written recommendation and the basis for that recommendation.

**(iii) Complaints:** Any member of the University community wishing to complain of a breach of Code may submit their complaint in writing to the Office of the Vice Dean of Doctoral Programs. Complainants will be known to the Ethics Committee. All contacts between the complainant(s) and the Ethics Committee will be held in confidence according to the procedures of the Ethics Committee.

**(iv) Appeals:** Any student sanctioned under the Code by the Vice Dean may appeal the decision and/or the sanction to the full membership of the Wharton Doctoral Executive Committee. The appeal should be submitted in writing to the Vice Dean within seven days of the receipt of the Vice Dean's letter informing the student of the decision and the sanction. The Vice Dean may meet with the student to clarify the Ethics Committee decision and/or sanctions. If deemed appropriate by the Vice Dean, the Vice Dean may convene the full membership of the Wharton Doctoral Executive Committee, excluding those members who had served on the original Ethics Committee, to hear the student's appeal. One faculty member of the full Doctoral Executive Committee will be chosen chair by the Committee for the purpose of the appeal. The student will be given the opportunity to present their appeal in person, and an advisor for the student may be present. Upon hearing the appeal, the constituted Doctoral Executive Committee will render a decision as to the violation and the sanction. The Committee's decision is final.

**(v) Jurisdiction:** The Ethics Committee or the Wharton Doctoral Executive Committee may refer the matter to the University Office of Student Conduct at any time.

#### **8.2.d DISMISSAL FOR INADEQUATE ACADEMIC PERFORMANCE**

It is understood that the procedures outlined here apply only to conduct violations. Dismissal for inadequate Academic performance or progress remains the responsibility of each student's graduate group.

#### **8.3. Grievances**

A student or faculty member at any time has the prerogative of consulting the Ombudsman of the University to seek advice on grievances or appeals of a general nature. The student may also file a statement of grievance with the Wharton Doctoral Programs, as described below.

Students with grievances not covered by sections 8.1 and 8.2 of this manual can present grievances in writing to the Vice Dean, with copies to the student's Department Chair and Coordinator/ Statements of grievances should indicate the matter under dispute as well as any remedies the student considers appropriate.

Upon receipt of a statement of grievance, the Vice Dean will appoint an ad hoc advisory committee. The committee will consist of two members of the standing faculty that do not have primary or secondary appointments in the student's Department, one member of the standing faculty from the student's

Department who is not involved in the dispute, and one doctoral student representative. The function of the committee is to investigate the grievance and make a recommendation to the Vice Dean. The committee's investigation will include an interview or interviews with the student and any faculty, administrators, or other students involved in the dispute.

Upon receipt of the recommendation of the ad hoc committee, the Vice Dean will render a decision regarding the disposition of the grievance. The Vice Dean will carefully consider the committee's recommendation, but the final decision on the matter will rest with the Vice Dean.

#### **8.4. Authorship Policy for Doctoral-Student Faculty Collaboration**

Doctoral study at the Wharton School requires students to work with faculty on research. Before initiating joint research activities, the faculty member or mentor and the student should have a clear understanding of how authorship credit on any papers that arise from the work will be determined. The disciplinary standards, styles, and procedures for credit, for the order of authors' names, and for acknowledgement footnotes vary importantly across Wharton's doctoral programs, and across the research centers and schools in which its faculty and students participate, so there cannot be a single set of rules or procedures. The key element of the policy is therefore one of statement of expectations by the faculty member or mentor and agreement by the student at the start of the research; the actual expectations and policies must be mutually agreeable and, if they are not, student or faculty should decline collaboration. When roles and expectations change over the course of collaboration, the understanding concerning authorship should be discussed again and changed if necessary. If disputes arise, the process for resolution outlined in the Graduate School rules and procedures should be followed.

## 9. Wharton Computing System Accounts and Policies

The computing systems, software, and networks of the Wharton School provide a wide range of services. The use of these resources involves certain risks and obligates users to certain responsibilities.

The Wharton School's computer systems and networks are the private property of the Wharton School and the University of Pennsylvania. Access to these systems is a privilege granted by the Wharton School and the University of Pennsylvania, and may be revoked without prior notice.

The overall policy governing computing and networking at the University of Pennsylvania is the Penn Computing document, *Policy on Acceptable Use of Electronic Resources* available at: <http://www.upenn.edu/computing/policy/aup.html>

Both the Wharton policy and Penn Computing's policy may be updated from time to time; please refer to the most recent online version to resolve any questions about acceptable use.

### Computer Accounts

To use e-mail and certain other computing resources you must have a Wharton Computing Account. Accounts for incoming MBA and Undergraduate Wharton students are generated using the Early Account Program.

Transfer and Dual Degree students can also create an account online using our Account Creation program (choose the Class Account option). PhD students should contact the IT Support representative from their department to obtain an account.

Non-Wharton Penn students taking a Wharton class can apply for an account online using our Account Creation program. These accounts do not include an email account, but do include a Wharton email address that forwards to the student's home school email account. The account will be valid only for the duration of the class.

A separate University PennKey account is required to access University and some Wharton services. Students who have matriculated will receive an email inviting them to set up a PennKey account. By following the instructions online at <http://www.upenn.edu/computing/pennkey/>.

For additional information on opening a Wharton Computing account, contact Wharton's Accounts Team in SH-DH 114 or call 215/898-8600.

### Account Access and Security

Account owners are responsible for all the activity on their account. Accounts are assigned to individual users; no one other than the account owner should be allowed access to an account. *"Shared" accounts are not permitted.*

Account holders are required to keep their passwords and account information secret and take reasonable precautions against unauthorized access.

Students are required to respect the privacy and integrity of other users, systems, and data, and are explicitly forbidden to:

Access, read, or copy other people's files unless they have been given explicit permission from the owner to do so.

Transmit messages, electronic mail, or other information anonymously or identified from another user.

Information on networked systems should not be considered private or secure. Complete privacy of computer files cannot be guaranteed, and Wharton computing staff may view users' files under certain circumstances, such as the appearance of abuse or questionable behavior. For more information, see

Penn's Policy on Privacy in the Electronic Environment [<http://www.upenn.edu/almanac/v47/n04/OR-eprivacy.html>]

#### Ethical Behavior

Any behavior with respect to the electronic environment that interferes with the mission or activities of the University or members of the University Community will be regarded as unethical and may lead to the revocation of computing privileges, and may also lead to disciplinary action under standard University rule for misconduct and existing judicial, disciplinary or personnel process.

The use of University computer resources for private or commercial activities, advertising, spamming, or chain letters is strictly prohibited. For complete information on unethical behaviors that are prohibited, see the document "*Policy on Acceptable Use of Electronic Resources*", at <http://www.upenn.edu/computing/policy/aup.html>.

Copyright violation carry ethical and legal repercussions, and is not tolerated at the University. Copyright violation at Universities is actively targeted by media companies and the probability of detection is high. Copyright violations will be referred to the Office of Student Conduct and may face further legal consequences. See <http://www.upenn.edu/computing/policy/copyright.html>

#### Guidelines for Use of Wharton Email Addresses

##### **Wharton Directory Information**

Wharton student email information is accessible through the Community tab in SPIKE, the University's Online Directory, and from the Wharton Global Address Book (commonly available through Wharton email services). While information listed in the University Directory can be made available to the greater Penn Community and/or to the public, access to information listed in the Wharton Directory requires an authorized current Wharton Account. Privacy settings that are set in the University's online directory will be honored in Wharton's Online Directory.

The Wharton Global Address Book lists all members of the Wharton community and is considered to be private, privileged information. Because of this underlying assumption of privacy, it is not acceptable for any member of the Wharton Community to provide information collected from the Wharton Global Address book to outside sources, or otherwise place this information in the public domain.

There may be cases where email addresses of students, faculty or staff need to be provided to outside firms in order to pursue educational studies or other business related to the Wharton Community. (This could include using an outside website or vendor to set up survey sites, or other online tools in line with instructional pursuits.) In these instances you must either:  
Retain the actual email address in your possession, without providing it to the outside company, and using alternate means to provide students with the required information, or  
After providing full disclosure on how directory information will be used, obtain the consent of each student, faculty or staff member prior to submitting their address to the company.

Exceptions to this policy can include those software vendors that have entered into a contractual agreement with Wharton in order to help Wharton conduct its business; we assume that if a contract has been agreed to, it includes a privacy clause that protects the privacy of email addresses. See [<http://cms.business-services.upenn.edu/purchasing/images/stories/pdfs/terms-conditions-exhibit-a.pdf>]

##### Wharton's Definition of SPAM

At Wharton, "SPAM" is defined as unsolicited email that does not promote or enhance the educational and research missions of the School. Members of the Wharton Community are expected to respect the need for restricting email traffic to those for whom it is intended, and for whom it will provide benefit. Email that does not fit this criteria is deemed a nuisance, and may be considered SPAM.

In general, Wharton expects members of its community to carefully consider the communication alternatives (SPIKE, Discussion groups, etc) before sending mass emails. For more information on the definitions of SPAM, and a description of how mailing lists are handled with SPAM, see the University's policy on Mailing list and SPAM:

<http://www.upenn.edu/computing/email/resource-rules.html#large>

For questions on this policy or for help with interpreting it, please contact your Program Office.

### **Phishing and Viruses/Malware**

Wharton email servers are affected by phishing and virus attacks. If students respond to phish emails, or get viruses or malware on their computers, Wharton may close the email account until the necessary steps have been taken to appropriately clean the account and any related computer equipment.

### **System Quotas and Usage Restrictions**

Most Wharton computer systems have limits on the amount of space allotted for each service. All central host systems have a policy on the amount of time back-up files are retained, and some have a limit on how long files are retained if they are not accessed. For more information, contact Wharton Computing's Student Support Team in SH-DH 114.

Wharton systems forbid the mass distribution of electronic mail messages without prior approval, as well as other activities that use system resources inefficiently.

A current Penn ID and a PennKey Account are required to use Wharton's computing labs. Smoking, eating, or drinking are not permitted in Wharton's computer labs.

The Wharton School and the University of Pennsylvania neither condone nor tolerate the unauthorized copying of licensed computer software by staff, faculty, or students. The University shall adhere to its contractual responsibilities and comply with all copyright laws, and expects all members of the University community to do so as well. Members of the University community who violate this policy may be subject to discipline through standard University procedures.

<http://www.upenn.edu/computing/policy/copyright.html>

An individual or University department engaged in the unauthorized copying or use of software may also face civil suit criminal charges, and/or penalties and fines. Subject to the facts of each case, such individuals or departments shall be solely responsible for their defense and any resulting liability. For more information, see Penn's Protocols Handbook on the web at: [http://www.upenn.edu/assoc-provost/handbook/v\\_g.html](http://www.upenn.edu/assoc-provost/handbook/v_g.html)

### **Use of Wharton and University-provided Software after Graduation**

Wharton provides students with access to licensed software to be used during their academic years at the University of Pennsylvania. Once a student is no longer enrolled at Wharton, usage of software distributed by Wharton is prohibited. The same is true for software licensed by the University.

### **Problems**

Anyone who suspects that a computer account has been improperly used or believes there has been a breach of system policies or security should report it immediately to Wharton Computing's Student Support representatives at the address listed below.

Depending on the circumstances, Wharton computing staff may temporarily disable accounts to prevent abuse. When an account is disabled the account holder may be asked to appear in person with his or her

Penn ID to reactivate the account and select a new password.

Problems with the equipment in the labs and other computing problems or concerns should be reported to Wharton Computing's Student Support Team:

SH-DH 114

215/898-8600

<http://spike.wharton.upenn.edu/support>

### **Restrictions on the Use of 'Penn Only' Networked Resources**

Many of the resources listed on the E-Resources pages are subject to restrictions on their access and use. In order to comply with license agreements for educational use and to ensure access to limited resources, Licensed Resource access is generally limited to current Penn faculty, students and staff. In addition, access is also limited to computers on campus or computers that use the [Library Proxy Service](#). (For information on how using the library's proxy click [HERE](#).) Downloading and electronic redistribution of restricted resources are subject to limitations. For more information regarding Penn's access to electronic resources, see our [Access to Electronic Resources Statement](#).

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## **Department PhD Policies and Requirements**

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## **Appendix 1. Accounting Ph.D. Policies and Requirements**

### **Course information**

Students are required to complete a minimum of 16 graduate level courses, of which eight at most can be transferred from other programs, schools or universities. Up to four courses per semester may be counted toward the overall requirement of 16 courses. The eight courses taken in the first year usually consist of the four required economics and statistics courses, an empirical accounting core course (ACCT921 or ACCT 922), and finance electives. In the summer and fall of the second year, students take the accounting theory core course (ACCT910), a second empirical accounting core course in the spring of the second year (ACCT921 or 922), and additional economics, statistics, and elective courses. In addition, the empirical research design course, ACCT930, is offered in the spring semester every two years, so students are required to take this course in the spring of their first or second year, depending on when they start the program. In the third and/or fourth years, students are allowed to take a cross-disciplinary seminar colloquium (ACCT981/982) and any remaining electives that are necessary to meet the required 16 CUs. Some students also construct individualized independent studies with faculty (ACCT999).

Accounting doctoral students are required to take the following Accounting Research Seminars:

- ACCT 910 – Accounting Theory Research I (1 credit)
- ACCT 921 – Empirical Research in Accounting (1 credit)
- ACCT 922 – Empirical Research in Accounting (1 credit)
- ACCT 930 – Empirical Design in Accounting Research (1 credit)

#### Notes:

- ACCT910 is taken in the fall of the second year
- ACCT921 is taken in the spring of first year
- ACCT922 is taken in the spring of the second year
- ACCT930 is offered every two year in the spring semester – students take the course during the semester it is offered during their first two years in the program

Students are also required to take the following two-course economics sequence and the following finance course:

- ECON 681 - Microeconomic Theory
- ECON 682 - Game Theory and Applications
- FNCE 911 – Financial Economics

With approval of the Accounting PhD coordinator, a student may be allowed to satisfy the economics and finance requirements with other courses.

Students are also required to complete a one-year graduate level sequence in econometrics/statistics is required. Accounting PhD students are encouraged to take STAT 520/521 to satisfy this requirement. Students may, with the approval of the Accounting PhD coordinator, satisfy this requirement with STAT 510/520, STAT 512/520, STAT 550/551, or ECON 705/706. In extraordinary cases, with approval of the Accounting PhD coordinator, a student may satisfy the econometrics/statistics requirement with other course sequences.

- STAT 510 – Probability
- STAT 512 – Mathematical Statistics
- STAT 520 – Applied Econometrics I
- STAT 521 – Applied Econometrics II
- STAT 550 - Mathematical Statistics
- STAT 551 - Introduction to Linear Statistical Models
- ECON 705 - Econometrics I: Fundamentals

ECON 706 - Econometrics II: Methods and Models

Additional graduate level courses commonly taken by accounting doctoral students include:

***Finance:***

FNCE 912 - Financial Institutions  
FNCE 921 - Introduction to Empirical Methods in Finance  
FNCE 924 – Intertemporal Macroeconomics and Finance  
FNCE 926 – Empirical Methods in Corporate Finance  
FNCE 934 – Empirical Methods in Asset Pricing

***Other electives:***

ACCT 981 – Workshop Colloquium I  
ACCT 982 – Workshop Colloquium II  
BPUB 911 – Empirical Public Policy  
ECON 708 – Agency, Information and Incentives  
INSR 932 – Contract Theory and Applications  
MKTG 966 – Measurement Data Analysis in Marketing  
OPIM 912 – Introduction to Optimization

**Workshop colloquium elective course (ACCT 981/982)** – Students attend workshops in departments outside of accounting to provide student exposure to theory, research designs and methods that are being explored outside of accounting to provide breadth of exposure to foster innovative research ideas. Students are required to attend 15 non-accounting workshops over one academic year and write up a referee report for 8 of those workshop papers. They are also required to write up at least one research proposal that stems from theories or research methods gleaned from one or more of the workshops attended.

**Grades**

In order to remain in good standing, a student must maintain at least a Grade Point Average of a “B” or better.

Students must pass all required courses with a grade of B- or better. A student that receives an “F” in any of the required courses can be asked to leave the program.

**Preliminary examination**

The accounting preliminary examination is given once each year, usually in late May or early June after the student’s second year in the program. All students enrolled in the Wharton PhD Program in Accounting must take the preliminary examination. If a student fails the examination, the student may retake the exam the following year. In some cases, and at the discretion of the accounting doctoral coordinator, alternative post-examination arrangements may be made for students that performed satisfactorily on some, but not all, portions of the exam. If a student fails the examination twice, the student will not normally be allowed to continue in the program as a PhD student.

**Annual paper requirements:** To remain in good standing, students are required to write and present a research paper in each year of the program.

**First-year paper**

The first-year summer paper provides an opportunity to learn research skills outside of the classroom experience. Students interact with a faculty member in directed research in a field in which the student

has an interest. All first-year students are required to submit a research proposal by June 15<sup>th</sup> that must be signed off by one accounting faculty advisor. The paper is written over the summer and must be turned in to the faculty advisor for sign off by September 30<sup>th</sup> of their second year (sign off forms are available from the department business administrator). The first-year paper must then be presented to the full faculty in a workshop (usually scheduled during November or December of the second year - the doctoral coordinator will assign workshop dates to all students).

### **Second-year paper**

The second-year summer paper is intended to build a foundation for the dissertation. All second-year students are required to submit a research proposal by June 15<sup>th</sup> that must be signed off by two accounting faculty advisors. The paper is written over the summer and must be turned in to the faculty advisors for sign off by September 30<sup>th</sup> of their third year (sign off forms are available from the department business administrator). The second-year paper must then be presented to the full faculty in a workshop (usually scheduled during November or December of the third year - the doctoral coordinator will assign workshop dates to all students).

### **Third, fourth and fifth-year papers**

Students are expected to present a research paper in the fall semester of each subsequent year in the program. No formal sign off procedures are required, but regular mentoring from faculty is highly advisable. The paper presented in the third-year of the program is ideally an early draft of a dissertation chapter, but the student may present an alternative research paper if agreed upon by the doctoral coordinator. However, to remain in good standing in the program, the fourth and fifth year paper presentations must be a draft chapter of the dissertation.

### **Paper requirements**

The Accounting Department sets a high standard for the papers, proposals, and dissertations we require to be written and presented. This is our main tool for assessing the progress of our students and their research potential, so we demand a high threshold for passing the requirements. Papers, presentations, proposals, and dissertations are evaluated as follows:

1. Pass – the paper successfully demonstrates the student’s ability to conduct and report on original and independent research.
2. Conditional Pass – the paper shows potential and the student has done quite a lot already, but there is room for minor revisions. The doctoral coordinator and selected faculty will set conditions that must be met before the paper can be considered a "Pass."
3. Major Revision Required – the paper shows potential and the student has made some progress, but there is room for thorough revisions. The faculty may require that the student successfully revise the paper by a given date before being granted a passing grade on the paper requirement (the student may also be required to present the paper again at a later date).
4. Fail – the paper does not show a promising path forward. In some cases, this might trigger dismissal from the program. In other cases, the student will be asked to start identifying a new topic and will be given the date required to submit a new paper and present. The PhD Coordinator will provide detailed instructions and guidance based on the particular case.

**Pre-seminar discussions:** The departmental workshop colloquium is a one-hour, faculty-led discussion for all Accounting doctoral students on days when an outside visitor presents a workshop. Second, third, and

fourth year students are required to attend (first year students are strongly encouraged to attend if their course schedule permits). In most weeks, the discussion is centered on the research paper that an outside speaker is presenting to the department.

**First year research assistantship:** First-year doctoral students are assigned to a faculty member as a research assistant in the spring semester (approximately ten hours per week). Faculty members propose possible projects to the Ph.D. coordinator, and students are matched to those projects with the student's interests and skill development needs in mind. The assistantship encourages working relationships between faculty and students and provides personal training in research skills outside of the classroom setting.

#### **Employment while in the Wharton Accounting PhD Program**

Students in the Wharton Accounting PhD Program are not allowed to accept employment without first receiving approval from the Wharton Accounting PhD Program Coordinator. Employment requiring approval includes all paid teaching assistant or significant grading positions within the department, paid research assistant projects within the department, and all forms of paid employment outside of the accounting department.

## **Appendix 2. Applied Economics Ph.D. Policies and Requirements**

**The primary objective of the graduate group in applied economics is to provide a training program for students interested in the application of economic analysis to the study of markets and non-market organizations. In addition, students in other graduate groups at Wharton may benefit from courses that have a more focused approach to the use of economic analysis**

### **ADMISSIONS AND FINANCIAL AID**

Students will apply for admission to the Wharton Program in Applied Economics, and may, if they wish, indicate a preferred field of study in their application. All else equal, the admissions committee may consider field choice in determining admission. Fellowship support will be in accordance with usual Wharton and University guidelines.

### **COURSE CURRICULUM**

Consistent with University requirements all students enrolled in the program will need to complete 15 course credits to qualify for dissertation stage. A working template for the new program is attached.

#### *CORE REQUIREMENTS*

Students will be required to master core materials in economic theory covering the topics of household decision-making, production theory, theory of markets and market failure, game theory, decision-making under uncertainty, and resource allocation in dynamic economies. The following courses will satisfy the three course economic theory requirement:

Microeconomic Theory I: ECON 701  
Microeconomic Theory II: ECON 703  
Macroeconomic Theory: ECON 702 or 704 or FNCE 924

Students will be required to master core materials in applied econometrics covering the topics of statistical inference, linear regression analysis, panel regression analysis, and estimation of models using discrete dependent variables. The following courses will satisfy the three-course econometric/statistics requirement:

Econometrics: ECON 705, FNCE 926 and ECON 721 or ECON 706 are recommended though other option is STAT 921 (and possibly STAT 520, STAT 521)

#### *FIELD REQUIREMENTS*

In addition to the core theory and econometrics materials, students will be required to master two applied fields by passing two courses in each field. Students will be free to offer their own field as a substitute with approval of the graduate group chair and (when relevant) an appropriate advisor from another Wharton graduate group.

- **Development Economics**  
BEPP 941: Development Economics

- **Industrial Economics and Business Regulation:**  
BEPP 987: Industrial Organization and Competition Policy  
HCMG 902: Special Topics of Health Services Research: Industrial Organization of Health Care  
ECON 781: Empirical Methods in Industrial Organization
- **Market Design**  
BEPP 971: Market Design
- **Public Economics and Political Economy:**  
BEPP 933: Public Economics: Social Insurance & Government Expenditures  
BEPP 951: Political Economy HCMG 903: Health Care Policy ECON 750: Public Economics I ECON 751: Public Economics II
- **Urban Economics and Real Estate:**  
REAL 945: Urban and Real Estate Economics  
REAL 946: Advanced Topics in Urban Economics  
REAL 947: Advanced Real Estate and Urban Economics
- **Behavioral Economics:**  
BEPP 904: Experimental Economics: Methods and Applications  
OIDD 900: Foundation of Decision Processes  
OIDD 904: Experimental Economics

#### WORKSHOPS

During the second and third year of the program students will be required to attend and actively participate in the graduate student research seminar. Students will also be responsible for presenting a paper of original research to the seminar before entering dissertation status. All students will also be required to attend the faculty Applied Economics Workshop during the 2<sup>nd</sup> and 3<sup>rd</sup> years.

#### Program Template for Years 1-2

(Unless noted otherwise, all courses give 1 full credit)

Year 1		Year 2	
Fall	Spring	Fall	Spring
Micro Theory I	Macro Theory	Field Course	Field Course
Micro Theory II	Econometrics II	Field Course	Field Course
Econometrics I	Econometrics III	Field Course	Field Course
	Field Course	Graduate Student Research Seminar (0.5 CU)	Graduate Student Research Seminar (0.5 CU)
		AEW/Field Seminar (0.5 CU)	AEW/Field Seminar (0.5 CU)
3 CU's	4 CU's	4 CU's	4 CU's

## **Qualifying Exam**

At the end of first year (usually in last week of May or first week of June), students are expected to take and pass the qualifying exam for Microeconomic Theory and the qualifying exam for Econometrics. These exams are written and graded by the Wharton Applied Economics PhD Committee. If a student fails in one qualifying exam, another opportunity to take that exam will be given at the end of the second year. Students can also request a waiver for one or both exams if they perform well in the courses associated with each exam. A satisfactory performance for Microeconomic Theory, for example, corresponds to having at least a B- or better in each micro course, and an average of B or better.

## **Faculty Advisors**

Students are required to select or are assigned two faculty advisors in the beginning of the second year in the program. Because the student will not have had all of the major field courses at that time, it is possible that a student will later decide to change advisors; such an eventuality will be considered a normal outcome. In addition, since students will not have had all of the major field course work by June of their first year, they should “read ahead” in their chosen fields to begin identifying a research topic for the Second Year Paper. Students are expected to initiate meetings with faculty members to discuss possible research topics, and these meetings should begin as early as possible after the student enters the program and are part of the process of getting to know the faculty and learning about the field.

## **Candidacy Paper**

The Program in Applied Economics provides students with several opportunities to conduct research. All students are required to write a candidacy paper in their second year to be submitted in the summer of the second year in the program. This paper should demonstrate the student’s ability to conduct PhD quality research. This is often used as the Master’s Thesis submission- and, as the title implies, it is one of the requirements for admission to Doctoral candidacy.

The deadline for submission of the Candidacy Paper is strictly enforced, and failure to complete and submit the paper by the deadline (July 15 of the end of the student’s second year in the program) is grounds for dismissal from the program. The paper must be submitted to the faculty members who are the student’s principal advisors for the project, as well as to the Doctoral Coordinator. A copy of the candidacy paper, together with letters from two faculty members noting approval of it, must be in each student’s file in the Program office prior to the start of the student’s fifth term (typically the start of the third year). Failure to fulfill this requirement may result in the student being dropped from the program.

The main objective of the candidacy paper is to demonstrate the student’s ability to do original research. Often the Candidacy Paper is submitted for publication, and it can also serve as the foundation for PhD research, possibly as a dissertation essay. The Candidacy Paper must be solely authored by the student, not co-authored with the faculty advisor.

Milestones on the road to the candidacy paper are as follows:

September of 2nd year in the program	Faculty advisors selected
Fall semester, 2nd year	Candidacy Paper proposal
Spring semester, 2nd year	Work on Candidacy paper
Submit final version of Candidacy Paper	

## **Admission to Candidacy**

Before admission to candidacy, the student is required to:

- Complete all required coursework, including all core courses, with at least a B- or better in each course and with an average GPA of B or better. (For the some courses, a passing grade on a qualifying exam can substitute for a grade below B-.)
- Pass both qualifying exams or request exam waivers.
- Submit a satisfactory candidacy paper.

## **The PhD Dissertation**

The best ways to find a dissertation topic is to talk to the program faculty and read the literature. Discussions with faculty can range from “cold calls,” where the student asks the faculty member for topic suggestions, to more proactive visits where the student discusses potential topic ideas that have come up in course work or research seminars. Students should also take a close look at recent dissertations written by students in their major field as well as dissertations written by students from other Wharton departments.

There are two primary models for the organization of dissertations. The “single study” traditional dissertation, and the essay approach. In the latter approach, two or three essays are generally found acceptable by the student’s dissertation committee, depending on length and quality. Dissertation essays are more prevalent for a number of reasons, including most importantly, (a) the Candidacy Paper may be permitted to constitute a substantial part of one essay, (b) an essay can be used as an interview paper (see discussion below), and (c) if properly structured, an essay can often be converted into a paper to be submitted to a journal. Whether two or three essays are appropriate depends on the length and complexity of the research undertaken and is determined by the student’s dissertation committee.

Dissertation essays may be co-authored, although the extent to which this is appropriate will depend on each student’s topic, doctoral committee, and faculty advisor. A circumstance where a co-authored essay might be appropriate could arise from a joint research project with a faculty member. However, the student’s dissertation must include at least one essay that is solely authored by the student.

The dissertation process must begin with the selection of a principal advisor or co-advisors. Each student is responsible for this selection, and then the student works with the advisor(s) to select the dissertation topic and begin exploratory research. The student and advisor then work together to select committee members. Committee members can be approached to join the committee by either the student or the principal advisor(s). The student should work with the advisor(s) to arrange a mutually agreeable procedure. The student should review the Wharton Doctoral Programs Policies and Procedures, to be sure that the committee structure satisfies the overall requirements of the Wharton Doctoral Program.

Important: the PhD Dissertation proposal must be defended before the end of the fourth year in the program. Failure to defend can result in dismissal from the program.

## **Going on the Job Market**

The ultimate objective of the Wharton Doctoral Program is to prepare our students for a teaching and research career, ideally at a college or university. Because the placement process for academic jobs is lengthy, students should become familiar with it well in advance of the “job market year.” The program provides full support for students going on the job market, and a series of meetings and timelines are provided to the students during the fourth and fifth years in the program.

## **PROGRAM ADMINISTRATION**

The program will be administered by the graduate group in Applied Economics. Primary appointments in the Departments of Business Economics and Public Policy and Real Estate will be automatic members of the graduate group and comprise the initial membership of the graduate group. The graduate group can extend membership to other Wharton and University faculty as they consider appropriate.

The graduate group will decide on its preferred administrative structure. Currently, the chairs of the departments of Real Estate and Business Economics and Public Policy are responsible for jointly appointing a PhD Coordinator that will serve a two-year term, with the option to renew it for another two years. The PhD Coordinator is also the representative for the group to the Doctoral Executive Committee.

## **Student Involvement**

Students are expected to spend full-time on their coursework and research during the first two years of the program. In subsequent years, students are expected to work with faculty, preferably as research assistants or co-authors, thereby gaining the experience required to be successful researchers. Other activities that further the student's research careers are encouraged, subject to the approval of the doctoral coordinator (this includes teaching assistant positions). Failure to communicate with the doctoral coordinator about a teaching job may result in cancellation of your scholarship.

### Appendix 3. Ethics & Legal Studies Ph.D. Policies and Requirements

#### CURRICULUM

The course of study for the PhD requires completing sixteen graduate course units, comprising a four-course unit core in the Legal Studies and Business Ethics Department, two courses in statistics, a course in economics, a five-course major disciplinary cluster, two courses in ethical theory, and two electives. Students may enroll in courses beyond these sixteen graduate courses.

Each student must have his or her choice of courses approved in writing by both Advisor and Doctoral Coordinator two weeks before the start of each semester. Any subsequent changes to a course schedule must also be approved in writing by both Advisor and Coordinator.

In addition, PhD students must take and defend preliminary exams in ethics and in legal studies, write and defend a dissertation proposal, and write and defend a dissertation.

The course requirements are as follows:

Area	Course Units
Ethics and Law in Business Courses	4
Statistics	2
Economics	1
Major Disciplinary Cluster	5
Ethical Theory	2
Elective	2
Dissertation	-
Total	16

Students may apply for credit for graduate-level work done at other institutions.

#### Ethics and Law in Business Courses

Students must take four LGST courses, including these two core course seminars:

- 1) Ethics in Business and Economics (LGST 920)
- 2) Foundations of Business Law (LGST 921)

Students must take two additional LGST courses from a list of approved courses held by the Doctoral Coordinator. Students without basic law work will be required to take LGST 101 in their first semester. Students will take LGST courses, other than Ph.D. seminars, under an independent study number, meet with the instructor periodically outside class, and write a paper. These requirements should be satisfied through courses taught by members of the LGST standing faculty, though exceptions will be made in special circumstances. The requirements may be adjusted for students with law degrees.

#### Major Disciplinary Cluster

The purpose of the cluster is to ground students in a single academic specialty other than Business Ethics. Clusters include the following Management, Law, and Philosophy. Students must choose a disciplinary cluster during the first year, in consultation with a faculty advisor. Required courses may not be double-counted. For example, a student choosing Philosophy as the cluster may not use the two required courses in ethical theory as part of the five course cluster requirement.

#### Statistics and Economics

Students must satisfy the Wharton requirement of two courses in statistics. The economics requirements can be met with Economic Foundations of Research in Management, Managerial Economics and other courses approved by the Doctoral Coordinator.

### **Preliminary Examinations**

The Ethics & Legal Studies preliminary examinations are given after students have completed LGST 920 and LGST 921. Each student is required to take separate written and oral preliminary examinations in both ethics and law. If a student fails the examinations, the student may retake the exams within a designated time span. If a student fails the examinations twice, the student will not normally be allowed to continue in the program as a PhD student. The student may at the discretion of the examination committee, however, continue to complete the requirements for the Master's Degree in Ethics & Legal Studies.

### **Evaluation Guidelines**

All doctoral students in the legal studies & business ethics department will be evaluated by the doctoral coordinator for good standing at a meeting in early June of each academic year. The evaluation process should serve as an opportunity to offer constructive advice. However, students that are found not to be in good standing are at risk of loss of funding and dismissal from the program.

### **Teacher Development TDP Workshop**

Students are required to complete the four-module Teacher Development TDP workshop. TDP is a four-module workshop and has the focus to enable doctoral students to improve their presentation skills, with the intent of improving academic job placement. In particular, most students will use TDP to help improve their academic job talks when going on the job market.

Doctoral candidates are encouraged to participate in the four-module workshop in their third year or later, but in some cases departments may wish for second year students to take it. Occasionally, waivers for the four-module workshop may be granted by a given department's doctoral coordinator under the following conditions:

- Significant prior teaching experience
- Recognized teaching awards
- College-level education courses
- Verification of completing the TA training held through the Center for Teaching and Learning (you will still need to complete the one-time session on effective lecturing)

These waivers will be granted by individual departments. The department waiver, if given, must be registered with the Wharton Doctoral Office in writing.

### **Student Involvement and Requirements in the Department**

In addition to formal coursework, the student is expected to participate in the informal intellectual life of the Legal Studies & Business Ethics Department. This includes attendance at the department's seminar series, where visiting speakers describe current research, plus participation in informal seminars investigating current topics of interest in a non-course setting.

The first year, students are expected to spend on course work and research. In subsequent years, students are expected to work with faculty either as teaching assistants or research assistants. No later than two weeks before the beginning of the semester, each eligible student will submit a request to serve as a teaching or research assistant for a particular faculty member. The Doctoral Coordinator, acting in consultation with the Chair, will make assistantship assignments. There is a presumption of rotating assignments.

Each student is required to present a research paper to the Department no later than the end of the fall semester of his or her first year of studies. Faculty are encouraged to attend the presentations.

### **Dissertation**

#### *Selecting a Dissertation Committee*

By the end of his or her third year, each student will form a dissertation committee. Membership on the committee must be approved by the Ph.D. Coordinator. In addition, by the end of the third year, students

will submit a preliminary draft of a dissertation proposal to the committee.

#### *Timing of Dissertation Proposal*

By the beginning of his or her fourth year, each student will submit the final draft of a dissertation proposal, and defend it. Each student is expected to complete and defend a dissertation no later than the end of the fourth or fifth year in the program. The program provides full support for students going on the job market, and a series of meetings and timelines are provided to the students during the fourth and fifth years in the program. The ultimate objective of our program is to prepare students for a teaching and research career, ideally at a college or university. Because the placement process for academic jobs is lengthy, students should become familiar with it well in advance of the “job market year.”

Papers, presentations, proposals, and dissertations are evaluated as follows:

1. Pass – the paper successfully demonstrates the student’s ability to conduct and report on original and independent research.
2. Conditional Pass – the paper shows potential and the student has done quite a lot already, but there is room for minor revisions. Students will be given the required date for revision submission.
3. Major Revision Required – the paper shows potential and the student has made some progress, but there is room for thorough revisions. Students will be given the date required for revision submission and to present again.

#### **Employment While In the Wharton Ethics & Legal Studies PhD Program**

Students in the Wharton Ethics & Legal Studies PhD Program are not allowed to accept employment without first receiving approval from the Wharton Ethics & Legal Studies PhD Program Coordinator. The implications of not requesting and receiving approval can be severe. The student could lose their good standing status in the program and this could result in their being asked to leave the program immediately.

#### **Time Limitations**

Students must complete all course work, preliminary examinations, and the dissertation requirement within 16 semesters, (excluding summer) from the date of their matriculation, excluding leaves of absence. Except in unusual circumstances, students will be expected to gain admission to candidacy status prior to the end of their fourth year in the program (excluding leaves of absence).

If a student has not completed all requirements for the PhD (including deposit of the dissertation) at the end of the fifth year after beginning dissertation candidacy, he or she must submit to the full dissertation committee, within two months of completing that fifth year, a copy of all written work completed to date on the dissertation. If the student is unable to construct such a committee, he or she can be dropped from the doctoral program.

## **Appendix 4. Finance Ph.D. Policies and Requirements**

### **PHD IN FINANCE – PROGRAM OF STUDY**

The PhD in Finance requires a minimum of 18 graduate level courses, of which 6 at most can be transferred from relevant graduate courses at other schools or universities. Up to 4 courses per semester may be counted toward the overall requirement of 18 courses.

The 8 courses taken in the first year usually consist of one micro economic theory course, two economics courses or statistics courses as well as the first five finance core courses. In general, students complete all eight core courses during their first year.

The Finance Preliminary Examination is given once each year. All students enrolled in the PhD Program in Finance are required to take the preliminary examination immediately following their first year in the program. If a student fails the exam, the student may retake the exam the following year. If the student does not pass the exam the second time, the student will be asked to leave the program.

Preliminary examination questions pertain to the material covered in four of the finance courses taken during the first year (FNCE 911, FNCE 912, FNCE 921 and FNCE 924). The Finance Preliminary Examination is meant to test basic material and will be substantially related to these courses.

### **TWO PHASES OF THE PROGRAM**

The program is divided into two distinct phases – Pre-Candidacy and Candidacy. Upon satisfying all pre-candidacy requirements, the student applies in writing to their Departmental Coordinator for admission to candidacy. The Coordinator will review the student's record and make a recommendation to the Vice Dean. Upon approval by the Vice Dean, the student is admitted to candidacy.

#### **PRE-CANDIDACY**

During the pre-candidacy phase, the student completes the required course-work, preliminary examination, and research papers.

#### **Penn Economics FNCE 897 – Math Institute – Summer Math Camp**

New students to the program should register for ECON 897, Math Institute – Penn Economics Summer Camp, before their first fall semester in the program. A proficiency in calculus and linear algebra is required. There are two ways of demonstrating proficiency. One is to take the waiver exam that is usually given in August prior to the fall semester. Two is to take ECON 897 and pass the final examination that also serves as the waiver exam.

Any student that has questions about the requirement to take ECON 897, must contact the PhD Program Coordinator when they accept admission to the program.

Another option is Wharton Math Camp. Students who wish to consider attending it instead of ECON 897 will need to contact the PhD Program Coordinator before registering.

## **Eighteen-Course Requirement**

### **Transfer of Credit**

Of the 18 course units of graduate work required for the doctoral degree, at least 12 units must be taken at the University of Pennsylvania. Students may receive up to 6 course credits for graduate work at other universities. A student who desires credit for previous course work should submit a written request to the PhD Program Coordinator during their first year in the program. The PhD Program Coordinator will decide whether to grant credit based on the standards of the previous work and its relevance to the student's program.

### **Grades**

In order to graduate, a student must maintain at least a Grade Point Average of a "B" or better. A student that receives an "F" can be asked to leave the program.

You are required to have 18 courses to graduate. You will not be able to graduate if a GR/NR/I appears as a grade for any one of the 18 required courses. Please see the Academic Affairs Coordinator if you have any questions.

### **Fall Semester – First Year**

#### **ECON 681 – Microeconomic Theory**

*This course can be substituted with ECON 701 for students who wish to study microeconomic theory at a deeper level. Prior approval from the PhD Coordinator is required.*

#### **FNCE 911-Financial Economics**

*This course will cover basic theories in finance: Asset pricing and portfolio choice.*

#### **FNCE 928 – Methods in Finance Theory**

*This course will cover topics in micro theory: basic game theory, moral hazard, and adverse selection and basic tools in continuous-time finance.*

**\*ECON 705 – Econometrics I (Fundamentals) or STAT 520 – Applied Econometrics I**

### **Spring Semester – First Year**

#### **FNCE 912 – Corporate Finance and Financial Institutions**

*This course will cover basic theories in corporate finance, financial institutions and financial markets.*

#### **FNCE 921 – Introduction to Empirical Methods in Finance**

*This course will cover empirical asset pricing and empirical corporate finance.*

#### **FNCE 924 – Intertemporal Macroeconomics and Finance**

*This course will cover topics at the intersection of finance and macro.*

\*ECON 706 – Econometrics II (Methods) or STAT 521 Applied Economics

***\* A one-year graduate level sequence in ECON 705/706 or STAT 520/521 is required. Both courses must be passed with a “B Minus” grade or better.***

### **Finance Electives – 4 Course Requirement Over Second and Third Year**

Each student is expected to develop proficiency in specialized areas in preparation for dissertation and research work. To this end, 4 or more finance electives are required from among the following courses:

FNCE 922 - Continuous-Time Financial Economics  
FNCE 923 - Financial Economics under Imperfect Information  
FNCE 925 - Topics in Asset Pricing  
FNCE 926 - Empirical Methods in Corporate Finance  
FNCE 932 – Topics in Corporate Finance  
FNCE 934 - Empirical Methods in Asset Pricing  
FNCE 937 - Applied Quantitative Methods in Finance  
FNCE 810 – Structural Estimation in Corporate Finance

With 8 core course and 4 elective courses in finance, students will need 6 additional course credits to satisfy the course requirement for their PhD in Finance. Students can satisfy these additional course credits in the following ways.

#### **Transfer Credits**

Electives from Other Departments: Economics, Statistics, Accounting, Mathematics, etc.  
Seminar Courses (FNCE 950): Students should limit seminar courses to a maximum of 3. These credits require students to attend the weekly seminar and write referee reports. A permit is required. The PhD Program Coordinator must approve before a permit is issued.

### **Preliminary Examination**

The finance preliminary examination is given once each year, usually in June after the student’s first year in the program. All students enrolled in the Wharton PhD Program in Finance must take the preliminary examination. If a student fails the examination, the student may retake the exam the following year. If a student fails the examination twice, the student will not normally be allowed to continue in the program as a PhD student. The student may at the discretion of the examination committee, however, continue to complete the requirements for the Master’s Degree in Finance.

### **Master’s Degree in Finance**

Students may apply for the Master’s Degree in Finance if the following requirements are met:  
Preliminary Examination passed at the Master’s level or above.

Successful completion of a substantial paper can substitute for a Master’s Thesis. Passing the second-year paper (Approved by two Finance Faculty Advisors) fulfills this requirement.

Eight core course requirement must be met with a “B” Grade Point Average or better with no non-grades of I, I\*, GR, or NR.

### **Research Fellowship**

Students are required to complete 2 research fellowships. The first may be performed in the first summer after the student’s first year in the program. This may result in their first-year

paper. The second may be performed in one semester in the second year. Research fellowship involves a semester-long work as a research assistant for approximately 10 hours per week. Research assistant positions that are paid, do not count toward the student's research fellowship requirement.

All research fellowships and assistant positions must be approved by the PhD Program Coordinator.

### **Teaching Fellowship**

Students are required to complete 4 teaching fellowships. They are generally completed in the student's third and fourth year in the program. A teaching fellowship involves approximately 10 to 15 hours per week.

Teaching assistant positions that are paid, do not count toward the student's teaching fellowship requirement.

All teaching fellowships and assistant positions must be approved by the PhD Program Coordinator.

### **First-Year Paper**

All first-year students are required to write and turn in a first-year paper by September 30<sup>th</sup> of their second year. This may result from a research fellowship or a course taken in the first year.

### **Second-Year Paper Proposal**

Students are expected to write and turn in a second-year paper proposal by May 15<sup>th</sup> of their second year in the program.

### **Second-Year Paper Presentation**

The presentation of your second-year paper must be completed by September 30<sup>th</sup> of your third year in the program. In order to better assist our students with the writing of their second-year paper and future papers, second-year papers are required to be reviewed by a writing coach that has been retained by the Wharton Doctoral Program Office.

Once you have given your presentation, you have between September and December 15<sup>th</sup> of your third year to request the writing coach review, give feedback and approve your paper. The second-year paper presentation cannot be passed without the writing coach's review and approval.

### **Third-Year Paper Proposal**

Students are expected to write and turn in a third-year paper proposal by May 15<sup>th</sup> of the student's third year in the program.

### **Third-Year Paper Presentation**

The presentation of your third-year paper must be completed by September 30<sup>th</sup> of the student's fourth year in the program.

### **Paper Requirements**

The Finance Department sets a high standard for the papers, proposals, and dissertations we require to be written and presented. This is our main tool for assessing the progress of our students and their research potential, so we demand a high threshold for passing the requirements. Papers, presentations, proposals, and dissertations are evaluated as follows:

Pass – the paper successfully demonstrates the student’s ability to conduct and report on original and independent research.

Conditional Pass – the paper shows potential and the student has done quite a lot already, but there is room for minor revisions. Students will be given the required date for revision submission.

Major Revision Required – the paper shows potential and the student has made some progress, but there is room for thorough revisions. Students will be given the date required for revision submission and to present again.

Fail – the paper does not show a promising path forward. In some cases, this might trigger dismissal from the program. In other cases, the student will be asked to start identifying a new topic and will be given the date required to submit a new paper and present. The PhD Coordinator will provide detailed instructions and guidance based on the particular case.

### **Required Teaching Assistant Training**

All students in the Wharton Finance PhD Program are required to participate in Teaching Assistant Training. This training must be taken prior to a PhD student becoming a Teaching Fellow or a Teaching Assistant. The Wharton Doctoral Office will send out information concerning signup. You will be required to complete the three-day TA training at the beginning of the academic year

You will not be required to complete the four-module Teacher Development TDP workshop

In addition to TA Training, you will be required to complete a one-time session on effective lecturing that is not covered in the TA training if you have not already completed TDP.

If you have already completed TDP but not TA training, you MAY be waived out of TA training unless TA training is specifically required for a course you are TAing. Please consult with your PhD Coordinator regarding this requirement.

### **CANDIDACY**

The candidacy phase comprises the preparation and defense of the dissertation proposal, doctoral dissertation and final defense of the dissertation, and dissertation status in the Student Record System (SRS).

In order for a student to go on dissertation in SRS, they need to have completed the following requirements:

1. Successfully passed the Teaching Assistant Requirement.

2. Successfully passed the Wharton Finance Preliminary Examination at the PhD level.
3. Successfully passed the 18 course requirement with the required grades.
4. Successfully passed the Second-Year Paper Requirement.

Upon advancement to candidacy, each student is required to have a Dissertation Committee consisting of at least three faculty members (including at least two members of the Wharton graduate group), which may include the Supervisor/Advisor. The Dissertation Committee meets at least once annually with the student to review the student's progress. The student prepares an Annual Dissertation Progress Report. A copy of the signed progress report is submitted to the Supervisor/Advisor and Graduate Group Chair.

Dissertations based on joint work with other researchers are allowed, provided that, in such cases, a unique and separate dissertation is presented by each degree candidate. The candidate must include a concise account of his or her contribution to the whole work. Authorship of a dissertation by more than one degree candidate is not allowed.

#### **Dissertation Proposal Defense – Fifth-Year Funding – Teaching Assistant**

To be eligible for consideration for a fifth-year merit-based grant, a student must successfully present a dissertation proposal prior to May 15<sup>th</sup> of the student's fourth year in the program. The PhD Program Coordinator and the Department Chair will determine the allocation of funds among eligible students. While it is possible that funds will be equally divided among qualified students, this outcome is not guaranteed.

Any compensation for teaching assistance is unrelated to this merit-based grant. Students who receive a merit-based grant may, in addition, receive compensation for teaching assistance.

**NOTE: Students that do not successfully propose by September 30<sup>th</sup> of their fifth-year, will not be allowed to provide teaching assistance from that time forward unless written approval is received from the PhD Program Coordinator.**

#### **Sixth-Year Funding**

Students may be eligible for partial funding in their sixth year in the program. Funding will be dependent upon merit and available resources.

#### **Dissertation Proposal Defense and Dissertation Defense Paper Requirements**

The Finance Department sets a high standard for the papers, proposals, and dissertations we require to be written and presented. This is our main tool for assessing the progress of our students and their research potential, so we demand a high threshold for passing the requirements. Papers, presentations, proposals, and dissertations are evaluated as follows: Pass – the paper successfully demonstrates the student's ability to conduct and report on original and independent research.

Conditional Pass – the paper shows potential and the student has done quite a lot already, but there is room for minor revisions. Students will be given the required date for revision submission.

Major Revision Required – the paper shows potential and the student has made some progress, but there is room for thorough revisions. Students will be given the date required for revision submission and to present again.

Fail – the paper does not show a promising path forward. In some cases, this might trigger dismissal from the program. In other cases, the student will be asked to start identifying a new topic and will be given the date required to submit a new paper and present. The PhD Coordinator will provide detailed instructions and guidance based on the particular case.

### **Time Limitations**

Students must complete all course work, preliminary examinations, and the dissertation requirement within 16 semesters, (excluding summer) from the date of their matriculation, excluding leaves of absence. Except in unusual circumstances, students will be expected to gain admission to candidacy status prior to the end of their fourth year in the program (excluding leaves of absence).

If a student has not completed all requirements for the PhD (including deposit of the dissertation) at the end of the fifth year after beginning dissertation candidacy, he or she must submit to the full dissertation committee, within two months of completing their fifth year, a copy of all written work completed to date on the dissertation. If the student is unable to construct such a committee, he or she can be dropped from the doctoral program.

### **Employment While In The Wharton Finance PhD Program**

Students in the Wharton Finance PhD Program are not allowed to accept employment without first receiving approval from the Wharton Finance PhD Program Coordinator. The implications of not requesting and receiving approval can be severe. The student could lose their good standing status in the program and this could result in their being asked to leave the program immediately.

## **Appendix 5. Health Care Management & Economics Ph.D. Policies and Requirements**

The Health Care management and Economics PhD Program combines intensive training in health care management and economics coupled with advanced training in a traditional business discipline. Our program provides thought leadership and policy development in the following areas of distinction:

- Value of technology and innovation
- Health insurance design and reform
- Design and impact of incentives in numerous health industry contexts
- Competition and collaboration across the value chain
- The broad interprofessional/multidisciplinary work of the Leonard Davis Institute of Health Economics

Wharton's doctoral program is unique among similar programs because it provides a strong background in microeconomic theory, an advanced teaching of econometric and statistical techniques, a comprehensive analysis of both health economics and health care services research, and grounding in management/strategy theory and research. The doctoral program complements the course work with numerous opportunities to collaborate with faculty members in research projects exploring a wide variety of topics in the health economics and management fields.

**Program Design and Core Competencies** Training in health economics and management at Penn is designed to impart core competencies required to produce knowledge that is novel and significant. The curriculum balances theoretical and factual content with skill-based methodological experience. At the program's foundation is a commitment to rigor, excellence, and high professional standards. These core competencies include:

- (1) Identifying researchable and policy-relevant topics;
- (2) Specifying precise research questions;
- (3) Evaluating existing research literature in the area;
- (4) Specifying rigorous yet tractable conceptual models with hypotheses whose testing will shed light on the policy relevant questions;
- (5) Developing a wide range of empirical skills in the collection, analysis, and interpretation of data;
- (6) Discussing results in clear language that can command both understanding and respect by technical and policy analysis;
- (7) Understanding how to best identify stakeholders in the results of the research in question, how to motivate them to attend to the results of research and appreciate its new contributions in methods, rigor, and relevance, and how to communicate those results in settings, formats and language that are understandable, compelling, and persuasive.

### **Admissions Criteria**

- Congruence between an applicant's career goals and our program goals
- Strong academic record
- Strong references that address an applicant's analytical and research aptitude
- Strong GRE or GMAT scores. Test scores are required for all applicants; including MD-PhD applicants, there are no exceptions.
- Strong desire for knowledge creation in academic settings

### **Disciplinary Clusters**

The purpose of the disciplinary cluster is to equip candidates to conduct research in their areas of choice and to teach in fields in addition to Health Care Management and Economics. The courses may be drawn from the following clusters:

- Economics
- Operations and Information Management
- Statistics

- Finance/Accounting
- Management
- Marketing
- Business Economics and Public Policy

**PhD Requirements**

The Wharton Doctoral Degree requires credit for 16 semester course units plus a dissertation. The requirements for candidates in the Health Care Management and Economics (HCM) program are as follows:

<u>Discipline</u>	<u>Course Units</u>
HCM	6
Statistics	2
Microeconomics	2
Major and Minor Disciplinary Cluster	6
Dissertation	-
Total	16

In practice, students have considerable flexibility in selecting courses outside their major or minor clusters, including Independent-Study

**Statistics**

A one-year graduate level sequence in statistics or in probability and statistics is required. Any of the following sample sequences can be used. Students may substitute other graduate level course upon approval of the graduate director of the Statistics department.

STAT 500& STAT 501	Applied Regression and Analysis of Variance and Introduction to Nonparametric Methods and Log-linear Models
STAT 510& STAT 520	Probability and Applied Econometrics I
STAT 520 & STAT 521	Applied Econometrics I and Applied Econometrics II
STAT 520& STAT 512 STAT 550& STAT 551	Applied Econometrics I and Mathematical Statistics Course STAT 550 Not Found and Course STAT 551 Not Found
ECON 705& ECON 706	Econometrics I: Fundamentals and Econometrics II: Methods & Models

**Microeconomics**

Select one of the following year long course combinations:

ECON 681& ECON 682	Microeconomic Theory and Game Theory and Applications.
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ECON 701&  
ECON 703

Microeconomic Theory I and  
Microeconomic Theory II

### Health Care Courses

The major field course requirements are selected from the following list. Normally, all PhD students are expected to take HCMG 900-001, 900-002, 901, 902, 903, 904.

#### PhD Level

- HCMG 900 – 001 Proseminar in Health Econometrics
- HCMG 900 - 002 Proseminar in Health Economics: Models and Methods
- HCMG 901 Seminar in Health Care Cost Benefit and Cost-Effectiveness Analysis
- HCMG 902 Special Topics in Health Services Research: The Industrial Organization of Healthcare
- HCMG 903 Economics of Health Care and Policy
- HCMFG 904 Doctoral Seminar in Organizational Behavior and Theory in Health Care

#### Masters Level

- HCMG 845 Managed Care and the Industrial Organization of Health Care
- HCMG 849 Financial Management of Health Institutions
- HCMG 852 Health Services Delivery: A Managerial Economic Approach
- HCMG 854 Legal Aspects of Health Care
- HCMG 859 Comparative Health Care Systems
- HCMG 863 Management and Economics of the Pharmaceutical, Biotech & Medical Device Industries

#### Curriculum

Students ordinarily complete all degree requirements in four to five years — two years of formal coursework, including directed research, followed by a thesis, which generally takes two years to complete. Before starting at Penn, trainees who plan to major in economics or related disciplines are strongly encouraged to take two semesters of calculus and statistics; they are also required to take the Wharton Doctoral Programs or the Economic Department's summer math course, which is a prerequisite for PhD level economics courses. The first year of coursework is normally spent on quantitative methods, economics, and courses in the HCM or the disciplinary cluster. Students must complete a first year paper during the summer of their first year. Typically, the student completes two Health Care Management and Economics courses during the first year. The second year is devoted to the remaining Health Care Management and Economics courses and the disciplinary cluster courses. Prelims are taken at the end of the second year. In the second and third years, students are required to participate in faculty-directed research projects for 10 hours a week. In addition, most students also participate in research during the summers, starting with their first summer. The final 2 years typically are devoted to full time work on dissertation research. The dissertation proposal defense, based on the proposed theoretical model and data analysis, and the final defense, are both open to the public. Students need to maintain a B average to maintain good standing. Students will have a year of probation to improve their status before any action may be taken. Final decision regarding any action will be made by the Doctoral Committee.

### Sample Course Sequence

Year	Fall	Spring
Year 1	<ul style="list-style-type: none"> <li>• Health Care Cost Benefit and Cost Effectiveness Analysis</li> <li>• Organizational Behavior and Theory in Health Care</li> <li>• Microeconomic Theory</li> <li>• Applied Regression and Analysis of Variance</li> </ul>	<ul style="list-style-type: none"> <li>• The Economics of Health Care and Policy</li> <li>• Health Economics: Models and Methods</li> <li>• Game Theory and Applications</li> <li>• Applied Econometrics II</li> </ul>
Year 2	<ul style="list-style-type: none"> <li>• Structural Econometrics</li> <li>• Econometric Methods for Program Evaluation</li> <li>• Econometrics I: Fundamentals</li> <li>• Industrial Organization of Health Care</li> </ul>	<ul style="list-style-type: none"> <li>• Empirical Public Policy</li> <li>• Health Econometrics</li> <li>• Market Design</li> <li>• Empirical IO</li> </ul>

#### 1<sup>st</sup> Year Paper

The purpose of the 1<sup>st</sup> Year Paper is to have students complete a piece of original research on a topic in the major field. Papers could be analytical, empirical or both. Students are asked to identify a topic and a faculty mentor willing to supervise their research project by the beginning of the summer of their first year. The students are then expected to conduct independent work and summarize their work and findings in a paper. The paper should be completed and submitted by the end of the first semester of their second year. This paper engages students in research early on in the program, exposing them to research elements such as finding a novel research question, building a research plan, developing a conceptual framework, identifying data sources, obtaining, cleaning and manipulating data, presenting and interesting results, etc. The first year paper also establishes a mentoring relationship between the students and faculty members early on in the program, which is beneficial for students. Ideally, the paper is a preliminary work which may eventually become a student's dissertation. Students need their mentor's approval and signoff on this paper.

#### Prelim

The preliminary exam test consists of a number of questions dealing with (1) health economics literature and critical thinking; (2) knowledge of economic theory and econometrics; and (3) knowledge of economic valuation. The exam covers all course material for year 1 and 2 as well as additional readings. A student must pass the prelim to advance to candidacy. Students, who fail their prelim, have the opportunity to retake it one other time while remaining in good standing.

#### Student Involvement in the Department

Students participate in faculty-supervised projects as research fellows, starting in the second year of the program. This work provides first-hand knowledge of research methods and design and often furnishes the basis for a dissertation topic. It also teaches students the art of securing funding for research, which is important for any aspiring health services researcher. Students are also expected to participate in the Leonard Davis Institute's Research and Policy Seminar Series, which feature external speakers working on cutting-edge health services research projects and policy issues. In addition to regular seminars, all PhD students are expected to participate in the departmental colloquium, which features discussion of research in progress by faculty members, students, and guests.

**Admission to Candidacy**

Before admission to candidacy, the student is required to complete the course requirements as described. Health services research prelims are given at the end of the second year. The student's major disciplinary cluster prelim is usually given at the end of the first year.

**LDI Associate Fellow Appointments**

HCM PhD students, as well as other Penn PhD students with strong interest in health care research and are trainees of LDI Senior Fellows, are invited to apply for LDI Associate Fellow appointments, which provide funding opportunities for research as well as opportunities for research collaboration with other LDI Fellows and Senior Fellows.

For additional information on the MD-PhD program please see the [University of Pennsylvania's MD-PhD Program website](#).

## Appendix 6. Management Ph.D. Policies and Requirements

### Curriculum

The PhD program in Management consists of 16 graduate-level course units: 7 units of management seminars (6 theory and 1 research methods), two additional units of research methods (e.g., MGMT 970; SOC 530, 611, 612 or 613; EDUC 771 or 880; MKTG 967), a 2 unit statistics sequence (e.g., STATS 500/501 or 520/521), 2 units of courses in social science theory (e.g., Economics, Sociology, Political Science, Psychology, Government, History, Communications, ...), and 3 units of free electives, as well as the dissertation. Up to 3 units of free electives can be waived by related graduate-level coursework from another institution. In addition to the dissertation, students are also required to complete a research paper. Teaching skills are developed through the requirement of leading two recitation sections of our introductory undergraduate course. Doctoral students are also expected to participate actively in department colloquia.

All students are required to take 3 management courses in the first year (2 core foundations courses and 1 research methods course).	
MGMT 900	Economic Foundations of Research in Management
MGMT 933	Psychological and Sociological Foundations of Research in Management
MGMT 953	Research Methods
Subfield Specializations	
Students must take at least four credit units from the half-unit subfield specializations:	
MGMT 918	Personnel Economics A (0.5 cu)
MGMT 919	Personnel Economics B (0.5 cu)
MGMT 920	Seminar in Human Resource Research (0.5 cu)
MGMT 925	Seminar in Corporate Strategy (0.5 cu)
MGMT 926	Corporate Transactions & Strategy (0.5 cu)
MGMT 932	Proseminar (seminar topic varies as course is offered every other year) (0.5 cu)
MGMT 935	Network Theory & Applications (0.5 cu)
MGMT 937	Entrepreneurship Research Seminar (0.5 cu)
MGMT 938	Family Business Research (0.5 cu)
MGMT 939	Entrepreneurial Innovation Research (0.5 cu)
MGMT 951	Seminar in Micro-Organizational Behavior (0.5 cu)
MGMT 952	Seminar in Macro-Organizational Behavior (0.5 cu)

MGMT 955	Foundations in Multinational Management (0.5 cu)
MGMT 957	Seminar in Emotions in Organizations (0.5 cu)
MGMT 958	Advanced Topics in Macro-Organizational Theory (0.5 cu)
MGMT 959	Seminar in Multinational Management (0.5 cu)
MGMT 960	Institutions and Multinational Management (0.5 cu)
MGMT 961	Advanced Topics in Micro-Organizational Behavior (0.5 cu)
MGMT 962	Multinational Firms in Global Econ (A) (0.5 cu)
MGMT 963	Multinational Firms in Global Econ (B) (0.5 cu)

### Evaluation Guidelines

1. All doctoral students in the management department will be evaluated by the doctoral coordinator and the doctoral advisory group (the “evaluation committee”) for good standing at a meeting in late May or early June of each academic year. The evaluation process should serve as an opportunity to offer constructive advice. However, students that are found not to be in good standing are at risk of loss of funding and dismissal from the program.

**2. For first-year students, the following rules shall apply:**

a. Grades. To remain in good standing, students must maintain a grade average of at least B.

b. First-year examination. The examination committee includes the faculty responsible for first-year exam – instructors for MGMT 900, 933 and 953. This committee will provide grades and feedback on the student’s exam performance for the evaluation. For any student whose performance is marginal or fail according to at least one committee member, the relevant member(s) of the examination committee, in consultation with the doctoral coordinator, will determine remediation activities, which may range from some form of remedial work to a re-take of the specific exam. Re-takes are subject to the same time constraints as the original exam and must be completed before August 15th. At the end of the re-examination or remediation period, the relevant members of the examination committee will again assess the student and provide feedback for the evaluation.

c. Overall evaluation. Any student who the committee unanimously declares to have passed the exam and who has maintained the required grade standard will be deemed to have met the academic standard for continuation in the program. Should grade or exam performance be marginal or unacceptable, the evaluation committee and examination committee will jointly decide, following a simple majority voting rule, whether to dismiss the student from the program or to establish additional remedial work. This vote will also take into consideration feedback from the student’s first-year research assistantship supervisor as well as written feedback from any other faculty members who have significant information concerning the student’s progress. In the event of a tied vote, the doctoral coordinator will cast the deciding vote.

d. Any student dismissed from the program has the right to appeal to the Vice-Dean for Doctoral Education at Wharton.

**3. For second-year students, the following rules shall apply:**

a. Grades. To remain in good standing, students need to maintain a grade average of at least B with no “permanent incompletes” (terminology used by the university to indicate an incomplete more than a year old, denoted by I\* on the transcript).

b. Second-year qualifying examination. The examination committee is appointed by area coordinators in consultation with the doctoral coordinator, and it includes two to four members of the faculty from the elected subfield(s). This committee will provide grades and feedback on the student’s written and oral exam performance for the evaluation. For any student whose performance is marginal or fail, the examination committee, in consultation with the doctoral coordinator, will determine remediation activities, which may range from some form of remedial work to a re-take of the exam. Re-takes are subject to the same time constraints as the original exam and must be completed before August 15th. At the end of the re-examination or remediation period, the relevant members of the examination committee will again assess the student and provide feedback for the evaluation. Any student who fails a re-examination will be dismissed from the program.

c. Overall evaluation. Any student who the committee unanimously declares to have passed the exam and has maintained the required grade standard will be deemed to have met the academic standard for continuation in the program. Should grade or exam performance be marginal, the evaluation committee and examination committee will jointly decide, following a simple majority voting rule, whether to dismiss the student from the program or to establish additional remedial work. This vote will also take into consideration feedback from the student’s first- and second-year research assistantship supervisor(s), the grade on the first-year examination, as well as written feedback from any other faculty members who have significant information concerning the student’s progress. In the event of a tied vote, the doctoral coordinator will cast the deciding vote.

d. Any student dismissed from the program has the right to appeal to the Vice-Dean for Doctoral Education at Wharton.

**4. For third-year students, the following rules shall apply:**

a. The second-year paper must have been accepted by the two designated readers, and the presentation of this paper completed by May 15th.

b. Two recitation sections of MGMT 101 must be completed.

c. All course requirements must be fulfilled with no incompletes of any type on record and an overall grade average of at least B.

d. The evaluation committee will review the performance of any student who has not met these considerations and decide, following a simple majority voting rule, whether to retain or dismiss the student. The committee will solicit input from faculty serving as advisors or readers for the second-year paper, from other faculty involved with the student in collaborative research, and faculty instructors for any classes taken during the third year, as well as information from the first- and second-year evaluations. In the event of a tied vote, the doctoral coordinator shall cast the deciding vote.

e. Any student dismissed from the program has the right to appeal to the Vice-Dean for Doctoral Education at Wharton.

**5. For fourth-year students, the following rules shall apply:**

- a. The dissertation proposal must be approved by May 15th.
- b. The evaluation committee will review the performance of any student who has not met these considerations. The committee will also solicit input from faculty serving as dissertation committee members and from any other faculty involved with the student in collaborative research to decide, following a simple majority voting rule, whether to grant fifth-year funding. In the event of a tied vote, the doctoral coordinator shall cast the deciding vote.
- c. Any student dismissed from the program has the right to appeal to the Vice-Dean for Doctoral Education at Wharton

**6. For students in their fifth year and beyond, the following rules apply.**

- a. There is no departmental funding available after the fifth year.
- b. The evaluation committee will review the performance of each student annually soliciting input from faculty serving as dissertation committee members and from any other faculty involved with the student in collaborative research to decide, following a simple majority voting rule, whether the student is making satisfactory progress towards the completion of their dissertation. In the event of a tied vote, the doctoral coordinator shall cast the deciding vote.
- c. Any student dismissed from the program has the right to appeal to the Vice-Dean for Doctoral Education at Wharton.

**First Year Exam**

The first-year exam is given to allow students to demonstrate their competency in the Economic, Sociological and Psychological Foundations of Management Research as well as Management Research Methods after completing the first year of classes. The exam is scheduled in the first-half of May.

The exam is designed and graded jointly by the instructors of MGMT 900, 933 and 953. The reading list for the exam is the joint syllabi for the three classes. All required readings from the syllabi are included even if they were not discussed in detail during class. Some instructors may choose to include optional readings as well.

The written component of the exam contains multiple questions. Students are typically required to answer certain questions and may be provided optional elections among other questions. Students are given two 6- 8 hour periods over a 2-3 day window to complete their written responses. The exam is open book / open notes and is delivered and returned via email to the doctoral administrative coordinator. Students should not disclose their identities on the exams; they will be provided with a unique identification number from the doctoral administrative coordinator to facilitate blind-grading. Throughout the duration of each exam period, students are not permitted to discuss exam content with anyone except to clarify questions with the instructor (provided s/he is available).

In assessing answers, instructors will look first for clear evidence that the student has seriously engaged each question answered, without neglecting any part. Beyond that, instructors will look for evidence that the student has absorbed and internalized the intellectual substance of the course material, and has actively used that understanding in addressing the question. Various questions on the exam will be designed to test ability to (1) show knowledge in each of the subdomains; (2) integrate, compare, contrast and discuss theoretical arguments within the economic, sociological and psychological foundations of management; (2) integrate, compare, contrast and discuss theoretical arguments spanning economics, sociology and psychology; and (3) demonstrate an understanding of the philosophy and design of different methodological approaches to test these theoretical arguments.

The instructors grant either a pass, a conditional pass, or a fail on the exam. "Pass" means that the student has demonstrated his/her competency on the entire exam. "Conditional pass" means that the student needs a limited amount of remedial work; in this case, the instructors will require some additional writing on one or more components of the exam due within a maximum of two weeks. "Fail" means that the student has demonstrated serious deficiencies on one or more components of the exam; in this case, the instructors will indicate that either the entire exam or some components must be retaken and passed before July 31 in order for the student to retain good standing.

### **Second Year Exam**

The second-year qualifying exam is given to allow students to demonstrate their competency in a particular (pair of) management specialization(s) prior to proceeding to dissertation stage. It is scheduled during the month of May.

By the end of February, students choose a core specialization and may choose a related specialization from the following set of six specializations: Entrepreneurship, Human Resources, Multinational Management, Organization Behavior, Organization Theory and Strategic Management.

An examination committee is formed by 2-4 faculty members, where the head of the committee is a subgroup member in the core specialization area. The committee membership is chosen by the core subgroup area coordinator in consultation with the doctoral coordinator; at least half the members of the committee are subgroup members in the core specialization area.

A reading list is generated by the committee in conjunction with the student. Typically, the reading list contains required and optional materials from class syllabi as well as other related articles, and is supplemented with additional articles that relate to the student's interests.

The written component of the exam contains multiple questions. Students are typically required to answer certain questions and are provided optional elections among other questions. Students are given between 8-10 hours to complete their written responses. The exam is open book / open notes and is delivered and returned via email. The oral component of the exam is held 2-3 days after the written component. In a session lasting between 30 minutes and 1 hour, the student answers questions intended to clarify their written responses. Throughout the duration of the exam period, students may ask clarifying questions of faculty members of their committee, but are not permitted to discuss exam answers with faculty or fellow students.

After the oral exam, the committee grants a pass, a conditional pass, or a fail. "Pass" means that the student is qualified to move to dissertation stage. "Conditional pass" means that the student needs a limited amount of remedial work; in this case, the committee will require some additional writing due within one week and may request a follow-up oral exam. "Fail" means that the student has demonstrated serious deficiencies; in this case, the exam must be retaken and passed before August 15 in order for the student to remain in the program.

### **Second Year Paper**

The second-year paper requirement is designed to develop and demonstrate a student's ability to identify a research question, develop related theory and hypotheses, and test these hypotheses empirically. In addition, it provides an opportunity for the student to practice presenting a paper in a full-session (80- minute) format. The caliber of written work required is at the level of a submission to a high quality and individually appropriate conference venue that is likely to be accepted. Indeed, we strongly encourage students to submit their second year papers for presentation at a major conference and our hope is that students will ultimately submit revised versions of these papers to equally prestigious journals for publication.

A second-year paper committee includes an "advisor" and two "readers". The advisor is the person who

has had the most previous exposure to the paper. Then, for the requirement, you must have two readers (not including your advisor) approve the written paper. You may have coauthors on this paper, but you must be the primary or coequal author, and coauthors cannot serve as readers (but can serve as advisor). When you submit the paper to your readers, they will have two weeks to respond to the paper. They may approve the paper as is, or ask for revisions before they approve. They also determine whether you are ready to present the work in an open session. When they provide a go-ahead for presentation, you are responsible for securing a presentation date and time that works for your readers, your advisor, and a member of the doctoral committee (typically the doctoral coordinator). Approval of the written paper and presentation in the open session fulfill the requirement. It is worth noting that the likelihood of your readers approving your paper is strongly correlated with the extent to which they and your advisor have provided previous informal feedback.

**Several deadlines apply:**

- 1) The second-year paper committee must be formed by May 15th of the second year.
- 2) The paper must be submitted to the committee, doctoral coordinator and doctoral administrator no later than October 15th of the third year.
- 3) The paper must be approved and the presentation completed no later than May 15th of the third year or the student risks losing good standing.

While these deadlines are used by the doctoral policy committee to evaluate adequate progress on the part of students, we encourage students to complete this process significantly earlier, such that the requirement is fulfilled by the summer after the second year. Completing the second year paper requirements before the start of the third year allows a student to focus on other research projects, submit his or her second year paper for publication, and begin work on the dissertation in the third year.

**Guidelines on Overlapping Topics**

Exploring a general topic of personal interest in more than one course paper is often a wise strategy as it allows students to deepen their expertise by bringing multiple lenses to it. With this approach, work done in multiple course papers on particular topics is likely to generate the seeds for the second-year paper, the dissertation, and other research papers. To ensure that professors are aware of students' work on the same topic in multiple courses, students need to disclose this information to course instructors as early as possible. If you plan to write a new paper on a topic that you have addressed in a prior class, you must (a) let your current professor know, in writing, that this is your plan; (b) clarify the new work that you will complete for the current class; and (c) give the current professor a copy of your prior deliverable. If you are writing on the same topic for two or more simultaneous courses, you must (a) let each of your current professors know, in writing, that this is your plan; (b) clarify the unique perspective of each paper; and (c) make the final deliverable for each course available to each other faculty member on request.

## Appendix 7. Marketing Ph.D. Policies and Requirements

The department maintains the “Marketing Department Ph.D. Student Manual” which is updated annually and posted on the department’s website: <https://marketing.wharton.upenn.edu/programs/phd/>. It contains the information listed below plus more details about the Ph.D. program requirements as well as department operations.

### Pre-Candidacy Phase

- Before admission to candidacy, the student is required to complete the required 17 cu’s of graduate level courses as described in detail in the **Coursework** section below.
- Take and pass the Marketing **Qualifying Examination** offered at the end of the first year.
- Complete a faculty-supervised **First Year research paper** due approximately August 25, before the start of the second year.
- Complete a faculty-supervised **Second Year research paper** due by approximately August 25, before the start of the third year.
- Complete all forms required by the University

### Coursework

The Ph.D. program in marketing is based on the completion of the dissertation as well as a minimum of seventeen graduate level courses in the following categories:

- **Major Field Course** (7 cu) – The Marketing Department requires that the students take seven credit units (cu) of Ph.D. seminars in the department as follows
  - Four credit units must be met by taking the following seminars:
    - MKTG 940 and 941 (1.0 cu total)
    - MKTG 942 and 943 (1.0 cu total)
    - MKTG 971 and 972 (1.0 cu total)
    - MKTG 973 and 974 (1.0 cu total)
  - Students meet the remaining three credit unit major field requirement by completing either the **Quantitative Tract** or the **Consumer Behavior Tract**, according to their research interests.

#### **Consumer Behavior Tract:** 3 cu’s as follow:

- MKTG 950 (0.5 cu) **AND** MKTG 951 (0.5 cu)
- MKTG 952 (0.5 cu) **AND** MKTG 953 (0.5 cu)
- MKTG 954 (0.5 cu)
- MKTG 956 (0.5 cu)

#### **Quantitative Tract:** 3 cu’s as follows:

- MKTG 954 (0.5 cu) **AND** MKTG 955 (0.5 cu)
- MKTG 956 (0.5 cu) **AND** MKTG 957 (0.5 cu)
- MKTG 950 (0.5 cu)
- MKTG 952 (0.5 cu)

If a required Marketing Seminar is not offered, students may submit a request in writing to the Marketing Department’s Doctoral Committee for a course substitution. Course Descriptions and schedules can be found on the Marketing Department website

- **Basic Course** (3 or 4 cu) - Students need to complete three or four credit units of a statistics and economics course sequence.
  - The specific courses permitted to satisfy the statistics basic course requirements are determined by the Wharton Doctoral Program Office in Section 5.4 of this manual.
    - 1. STATISTICS 500 and 501 (or PSYCHOLOGY 611 and 612)
    - 2. STATISTICS 520 and 521
    - 3. STATISTICS 510 and 520
    - 4. STATISTICS 970 and 971
    - 5. ECONOMICS 705 and 706
    - 6. SOCIOLOGY 536 and STATISTICS 501
    - 7. STATISTICS 503 may be taken first and paired with one of the following courses: STAT 500, 501, 510, 512, 520, 521, 970 or 971.
  
- \*Non-statistics Wharton PhD students may take STAT 927, 961 (Statistical Methodology – previously STAT 541) 962 and STAT 542 as an elective only after fulfilling one of the required course combinations listed above. In addition, students who would like to take STAT 541 are required to ask for an interview with the instructor and receive his/her permission.
  
- The economics requirement can be met by taking one of the following three sequences:
  - **ECON 701 and ECON 703 (Microeconomic Theory I & II) OR**
  - **ECON 681 (Microeconomic Theory) and ECON 682 (Game Theory and Applications) OR**
  - **BEPP 950 (Managerial Economics)**
  -
  
- **Course in a Related Field** (2 or 3 cu) – Students must complete two to three credit units in related fields. A partial list of possible related fields includes: Communications Research, Decision Processes, Econometrics, Economics, Information Systems, Operations Research, Psychology, Sociology, and Statistics.
- **Electives** (4 or 5 cu) - Graduate level courses

Of the seventeen courses, a maximum of four can consist of transfer courses for graduate work at other universities. In addition, only two of the seventeen courses can be independent study courses.

### **Candidacy Phase**

The candidacy phase comprises the preparation and defense of the dissertation proposal, doctoral dissertation and the final defense of the dissertation. The department expects students to adhere to the sequence of events and requirements associated with the dissertation as detailed in the Wharton Doctoral Policies and Procedures Manual to which the appendix is attached. Upon advancement to candidacy, each student is required to have a Dissertation Committee to meet with them regularly and submit required progress reports.

### **Remaining in Good Standing**

Students in both the pre-Candidacy and Candidacy phases need to remain in good standing to continue in the Marketing Ph.D. program. Criteria essential to being considered in good standing include:

- Participate in the Department Colloquia and Advanced Marketing Seminars
- Maintain a B+ average and making satisfactory progress in their studies. A typical course load is four courses per semester.
- Third Year Funding: Timely Completion of First Year and Second Year papers
- Third and Fourth Year Funding: At the end of the third **and subsequent years** each student needs to have a faculty member summarize the student’s progress and prospects with the doctoral

committee. It's up to the student whether to ask his/her advisor or someone else, and work with that faculty member to make a strong case on his/her behalf. To facilitate this, the student will complete the Student Progress Report required by the PhD Program Office. Based on these reports, the PhD Committee (or a funding sub-committee) will determine whether or not the student is "in good standing" and thus, whether or not the student's funding will be continued for the following year. At the minimum, we want to ensure that each student is in "good standing" in order to receive continued funding; at the same time, we want to raise the bar and assess whether the student has a realistic chance of getting a job at a top school.

- Fifth Year Funding: In order to obtain fifth year funding, our students must be in good standing and have defended their dissertation proposal prior to May 15 of their fourth year. In addition, the process described in the bullet point above will be required. Our intention will be to provide fifth year funding for all students who meet these criteria.

## **Appendix 8. Operations, Information and Decisions Ph.D. Policies and Requirements**

### **Departmental Course Requirements**

A total of 16 course credits are required for graduation. Up to four appropriate graduate course credits can be transferred from another graduate institution, after approval of the student's advisor and of the PhD coordinator. This section outlines the remaining requirements for all PhD students in OID.

#### **Core Courses**

All students must take and earn a grade of B+ or better in each of the department's three core courses:

- OIDD 900 - Foundations of Decision Processes;
- OIDD 940 - Operations Management;
- OIDD 955 - Research Seminar in Information Systems

*Students must earn a B+ or better in these core courses to satisfy the core course requirement.*

#### **Statistics**

The Wharton School requires all PhD students to demonstrate proficiency in the material covered in one of several one-year sequences of statistics courses. The OID Department Ph.D. students can satisfy the Wharton requirement with one of the following sequences: Statistics 500-501; Statistics 520-521; STAT 550-551; or Economics 705-706.

Students may demonstrate proficiency by either receiving a grade of B- or better in each course, or by passing a waiver exam administered by the Economics or Statistics Departments, or by transferring a comparable graduate-level course from another institution. Students may choose courses across sequences (e.g., 520 and 542) with permission from the PhD coordinator. Students are expected to complete their statistics requirements during their first year, before their qualifying exam.

#### **TA Training**

Students will be required to complete the 3-day TA training at the beginning of the academic year (usually end of August) in which they are scheduled to TA for the first time. In addition to TA training, students are required to complete a one-time session on effective lecturing.

#### **Course Requirement for Each Area of Specialization**

This section provides a brief description of each of the three areas of specialization within the department and lists the required courses for each area. Beyond these required courses, students have the flexibility to construct a set of courses that supports their progress towards the completion of a dissertation. The particular program of study adopted by the student should be developed in consultation with the student's advisor.

#### **Decision Process (DP)**

DP focuses on making choices when faced with ambiguity, uncertainty, and conflicting views and motivations of the principal stakeholders. This specialization gives students a theoretical basis and applied orientation for studying the behavior of individuals, firms and policymakers. Students are guided by formal, normative models of how decisions should be made by individuals and groups, based on economic and statistical decision theories, as well as by descriptive analyses of how decisions are actually made, drawing on recent work in cognitive and experimental economics.

In addition to the departmental core course and Wharton Statistics requirements, DP students are

required to take two economics courses (most often ECON 681-682). Beyond these requirements, students typically take courses in statistics, economics, marketing, psychology, and organizational behavior. These courses are offered by the OID Department, Wharton's Management, Marketing, and Statistics Department, as well as Penn's Psychology Department.

The qualifying exam in DP typically draws from material covered in OIDD 900, along with that covered in the student's core economics and statistics sequences.

### **Information Systems (IS)**

The IS track covers a broad range of research interests. Students interested in information and decision technology (IDT) focuses on the analytical and information technology-based methods for managing complex organizations. This interest in information strategy and economics (ISE) focuses on understanding the strategic aspects of information and information management.

In addition to the department core and core statistics sequence, all students focusing on IS are required to take a year-long microeconomics sequence (ECON 681-682 or ECON 701-702).

Beyond these required courses, IS students typically pursue courses that support their specific research interests. Those with an interest in IDT concentrate on the theory, development, and application of computer-implemented technology for solving problems. As such their coursework may include courses related to knowledge discovery and data-mining, computation and equilibria, and logic modeling, to name a few. These courses may be offered by the OID Department, Wharton's Management or Statistics Department, Penn's Computing & Information Science Department and other departments across the university. Students with an interest in ISE take additional courses on the methodological and theoretical foundations in economic theory, statistics/econometrics, and information technology.

The qualifying exam for IS students typically draws from material covered in OIDD 955, along with that covered in the students' core economics and statistical sequences.

### **Operations Management/Operations Research (OM/OR)**

OM/OR focuses on the processes that define an organization's outputs, as well as the methods commonly used to analyze these processes. Students specializing in OM are interested in a wide range of functions and organizational types, including operations strategy, product design, process design, technology management, capacity planning, inventory control, supply chain management and service system planning. Students interested in OR focus more on the application of mathematical models to these areas.

Because a strong knowledge of OR tools is an important foundation for much OM research, OM/OR students are required to master the same set of coursework. In addition to the department core courses and the Wharton statistics requirement, OM/OR course requirements are as follows:

- A year of microeconomics (ECON 681-682 or ECON 701-702)
- Math programming (OIDD 910 and 912)
- Stochastic processes (OIDD 930 and 931)
- An advanced course in operations management (OIDD 941)

Beyond these required courses, OM/OR students take a wide range of methodologically-oriented course offered by the OID Department and Wharton's Marketing and Statistics Department, as well as the Economics Department and other departments around the university. Many OM/OR students take a sufficient number of statistics that they obtain a Master's in Statistics on their way to completing an OID Department Ph.D.

Examples of tools courses that students can take include the following: advanced linear programming (OIDD 913), advanced nonlinear programming (OIDD 914), game theory (ECON 713), integer programming (OIDD 916), queuing theory (OIDD 932), dynamic programming (OIDD 934), and research methods (PPMT 900 or MGMT 953).

The qualifying exam in OM/OR typically draws from material covered in OIDD 912, OIDD 930, OIDD 931, and OIDD 940.

### **Qualifying Exam**

The Qualifying Exam consists of a written exam, an oral exam, and the student's summer paper. The qualifying written exam is taken at the start of the student's first summer. Each specialization determines the format of their exam. After the completion of the written exam, the student spends the summer working on his or her summer research paper. The oral exam is scheduled at the end of the summer and students are notified of their results shortly afterwards.

OID Department faculty members evaluate students based on the quality of their summer paper and their performance on the written and oral portions of the exam. If the faculty determines that the student has sufficiently mastered the skills needed to continue progress towards a PhD in the chosen specialization, then a student receives a passing grade. If the faculty determines that a student is missing some basic skills, it can specify remedial steps the student must undertake to receive a passing grade. These steps typically include, but are not limited to, reworking responses on the written exam, improving the summer paper and/or completing specific courses with a sufficient grade, and retaking portions of or the entire written exam. The student must complete all qualifying exam conditions by May 31 of the student's second academic year.

If the faculty determine that the student is sufficiently far from meeting requirements (or if the student fails to meet all conditions by the May 31st deadline), then the student receives a failing grade and may no longer continue with the program.

### **Summer Paper**

During the summer between their first and second years, all students must complete a research paper under the supervision of a faculty advisor. Students should identify a faculty advisor and a topic for their summer paper by the end of the second semester. At that time a short (one-page) summer paper proposal should be signed by the student and the advisor and returned to the PhD coordinator. Students should work closely with their advisor throughout the summer. A completed paper must be submitted to the PhD coordinator at the end of the summer. Part of a student's qualifying exam performance depends on the quality of the student's summer paper. The goal is to write a publishable quality paper. It is recognized that this is an ambitious target for the first summer, but it is a feasible target - several students have indeed published their first summer paper.

### **Dissertation Proposal**

The dissertational proposal is designed to provide a student with early and formal feedback from the faculty on the student's dissertation plans. The dissertation proposal defense should occur at the end of the student's third year, with the fourth year dedicated to the completion of the dissertation. The dissertation proposal should include preliminary results as well as a detailed plan for work that will be completed in the dissertation.

### **Dissertation Defense**

The final requirement in the program is the dissertation defense, which should occur around the end of the student's fourth year.

## **Appendix 9. Statistics Ph.D. Policies and Requirements**

This program is designed for students who desire academic research careers. The foundation is a sequence of courses in probability, mathematical statistics, linear models, and statistical computing. The program also encourages study in a cognate area of application.

### **Coursework**

The program for the Ph.D. degree includes seven core courses in the 2018-2019 academic year.

STAT 927 Bayesian Statistics

STAT 930 Probability

STAT 931 Stochastic Processes

STAT 961 Statistical Methodology

STAT 970 Mathematical Statistics

STAT 971 Introduction to Linear Statistical Models

STAT 972 Advanced Topics in Mathematical Statistics

More advanced students choose from among various elective courses offered by the faculty of the Statistics Department and other departments at the University. There is also considerable opportunity to take individually-structured reading courses with faculty in the department.

Under normal circumstances, students are expected to complete 13 classroom courses. These are comprised of the seven core courses and six elective courses, most of which are expected to be taken among those offered by the Statistics Department. Students may waive some of the required courses based on classes taken prior to enrollment; waived courses must be substituted by electives to meet the 13 classroom course requirement. It is common for students to meet the 13 course requirement by taking 6 classroom courses in the first year, 4 in the second, and then 1 every semester. Courses from other departments in the University may be taken subject to approval of the Ph.D. coordinator(s).

Students often take non-classroom based courses (reading courses/independent studies). These courses are arranged between a student and one of the faculty members and provide a way in which students can engage research areas, perhaps leading to a dissertation topic.

Students are strongly encouraged to take or seriously audit one course per semester beyond the third year.

### **First Year Exam**

During the summer between the first and second year, students will complete an eight to ten page paper. The paper must be typeset in LaTeX and follow the conventions of an actual publication: abstract, introduction, execution, summary/discussion, and references. Several forms of the paper are conceivable, including but not limited to the following: (1) a replication with commentary of a published paper, (2) a literature overview of a reasonably specific topic, (3) a short simulation study of a method of interest, (4) a fairly straightforward generalization of a known result in mathematical statistics or probability theory. Students should find a faculty member willing to supervise the writing of this paper. Their first year academic advisor should be helpful in locating such a supervisor. The student may propose a topic of their own interest or shop around among faculty. This paper is to be presented to the department at the start of the fall semester of year two.

### **First Year Paper**

During the summer between the first and second year, students will complete an eight to ten page paper. The paper must be typeset in LaTeX and follow the conventions of an actual publication: abstract, introduction, execution, summary/discussion, and references. Several forms of the paper are conceivable, including but not limited to the following: (1) a replication with commentary of a published paper, (2) a literature overview of a reasonably specific topic, (3) a short simulation study of a method of interest, (4) a fairly straightforward generalization of a known result in mathematical statistics or probability theory. Students should find a faculty member willing to supervise the writing of this paper. Their first year academic advisor should be helpful in locating such a supervisor. The student may propose a topic of their own interest or shop around among faculty. This paper is to be presented to the department at the start of the fall semester of year two.

### **Second Year Paper**

During the summer between the second and third year, students will work on a more substantial paper under the supervision of a faculty member, ideally their PhD supervisor. This paper could be a preliminary version of a thesis proposal. There should be some attempt at original research or at least the framing of an interesting original research problem. It is recommended that the actual writing of the paper be coordinated with the Wharton doctoral writing program. This paper is to be presented to the department at the start of the fall semester of year three.

### **Third Year and Thesis Proposal**

By October of their third year, students should have a PhD advisor. Sometime during the third year, students will present a formal research proposal to a group of at least three faculty members.

### **Department Support**

Students are typically funded by the department for four years. A fifth year of support is contingent upon the availability of a research grant or another source of external funding. Students are evaluated at the end of each year. Financial support and continuation in the program is based on satisfactory performance in classwork and research, as well as duties performed as a teaching assistant.

### **Student Involvement in the Department**

In addition to formal coursework, the student is expected to participate in the informal intellectual life of the Statistics Department. This includes attendance at Statistics colloquia, where visiting speakers describe current research, plus participation in informal seminars investigating current topics of interest in a non-course setting.

The department holds a senior Ph.D. student seminar day at the end of the spring semester each year during which non-graduating third-year and above students are expected to give 15 minute talks.

## Ph.D. Requirements

### University Requirements

- Qualification Exam
- Proposal Defense
- Final Oral Defense
- Dissertation

### Dissertation Progress Report

For each year after Candidacy Exam

- Year 1
- Year 2
- Year 3
- Year 4
- Year 5

### Doctoral/Department Requirements

- Required/Core Coursework Complete
- Statistics Requirement\**(see Section 5.4 in Policies & Procedures Manual)*
- Required Exams (Qualifying)
- TA Training or TDP Completion
- Dissertation Proposal Defense
- Required Research Paper(s)\* *(e.g. First Year; Second Year)*

### Certification – ALL PhD Degree Requirements

- Doctoral Program Requirements Complete
- University Requirements Complete
- Committee Acceptance of Dissertation
- Certification of Dissertation
- Deposit of Dissertation with Graduate Division

### **Masters Degree (AM, MS) Requirements**

- Coursework Completed--8CU's MINIMUM
- Research Paper Requirement
- Masters Final Exam\*
- \*PhD Prelim may count to fulfill this requirement*