

## Milestones for a PhD in Finance

**Entry requirements:** Prior to joining the program, students will be expected to have completed coursework in multi-variable calculus, linear algebra, statistics, and game theory. If grades for these classes do not appear on a student's transcript, then that student is expected to receive certification from a college, from Coursera or an equivalent MOOC, or elsewhere, prior to joining the program. Students will also be expected to attend the economics department math camp, which requires multi-variable calculus and statistics as pre-requisites.

**Coursework:** The goal of the program is to give students the ability to generate new theory and empirical results. The mandatory coursework can be grouped into three sets. First are classes in microeconomics, statistics, and macroeconomics. These are taken in the economics department.

Registration for coursework must be done in consultation with the finance doctoral program director.

### **Year 1: Fall semester**

ECON 7010: Microeconomic Theory 1

ECON: 7020: Macroeconomic Theory 1

ECON 7818: Mathematical Statistics for Economists

### **Year 1: Spring semester**

ECON 7030: Microeconomic Theory 2

ECON 7828: Econometrics

### **Year 2: Fall Semester**

ECON 7050: Advanced Economic Theory (recommended)

Second are six courses in finance, described below. The goal of these courses is to teach how to use (and how not to use) tools, and student assignments should largely involve projects in which those tools are used. These six courses are split into two sets of three, which are taught in alternating years. Official course names and numbers are TBD.

### **Block #1: Asset Pricing**

Fall semester:

1) Asset Pricing

Spring semester:

- 1) Structural Economics and Finance
- 2) Textual Analysis

**Block #2: Corporate Finance**

Fall semester:

- 1) Empirical Methods in Finance 1

Spring semester:

- 1) Empirical Methods in Finance 2
- 2) Finance Theory

Third are electives, and the choice of electives is at the student's discretion. We suggest electives in economic theory, applied mathematics (stochastic processes and stochastic calculus) and computer programming. A minimum 30 credit hours of coursework and 30 dissertation hours are required for the program. Finance doctoral students must maintain a minimum cumulative 3.3 GPA.

**Mandatory reading**

In addition to coursework, students will be expected to read and understand 100 papers in finance that are separate from classes. Half will be "classic" papers and the other half cutting edge. Classic papers form the canon of the field. This set of papers will evolve with each cohort of students, and the faculty will be expected to contribute toward determining that set.

**Post-seminar debriefings**

Students will also be required to attend a ½ hour post-seminar debriefing, run by whomever is responsible for the speaker's invitation. At these debriefings, faculty and students will discuss the papers that they just saw: what journal is the paper likely to be published in? Why was the paper good/interesting/well-done? What needs to be improved before publication and how can the authors make those changes? What faculty comments were likely not central to the conversation? What was good and bad about the talk, in terms of presentation style, speaker control of the audience, etc.?

**Comprehensive exams**

At the end of the first year, students will sit for the microeconomics comprehensive exam. At the end of the second year, students will sit for the finance comprehensive exam, which covers material from all six classes as well as the mandatory readings and seminar presentations. Students will write a solo-authored research proposal in the summer after the second year and present it orally in September of the third year to a committee of tenure-track finance faculty members. The student chooses the committee of tenure-track faculty (five members) to advise them on the proposal and

to evaluate it as part of the second-year comprehensive exam. In each case, a retake may be offered at the discretion of the faculty.

### **Third Year Paper**

Students will spend part of their third year taking the research proposal component of the comprehensive exam and turning it into a solo-authored paper. Students are expected to meet with their committee of tenure-track faculty at least twice in the Fall semester and at least twice in the Spring semester to ensure ample progress (students are encouraged to meet with faculty more frequently than twice a semester). After the end of the third year, students will present their third-year paper to the entire finance faculty during the summer. In some cases, a student may find that his or her second-year research proposal is not feasible for the third-year paper requirement. In these cases, the student may pivot to a new research topic for the third-year paper requirement. To help avoid cases like this, students are encouraged to meet regularly with faculty to assess the feasibility and novelty of their third-year paper topic. In addition, in some circumstances a student may want to add coauthor(s) to their third-year paper. With the approval of their committee, students may add a faculty member(s) or another PhD student(s) to the third-year paper.

### **Expectations for progress in the program**

Our goal is for each student to work with an advisor during her or his second year in the program to produce a jointly-authored paper. This research experience will be useful in the student's progress toward her or his third-year paper. In a student's third and fourth years he/she is once again expected to produce a jointly-authored paper with an advisor or other PhD students, ideally on a topic that is closely related to his or her research agenda. In the fourth year, he/she is expected to write a solo-authored "job-market paper", that he/she will use to get a job in the fifth year. In some cases, the third-year paper may be deemed sufficiently strong to serve as the student's "job-market paper." In such cases, the student is expected to polish and extend her or his third-year paper during the fourth year such that it would be ready for submission to an A-level finance journal (e.g., the *Journal of Finance*). Our goal is for each student to have one/two solo-authored and at least two jointly-authored papers when he/she goes on the job market.

### **Dissertation proposal and defense**

When a student has settled upon a research agenda, he/she should propose that to a selected committee of five faculty, one of whom is outside of Leeds. The student may or may not choose to include members of her or his committee from the second-year comprehensive exam research proposal/third year paper requirement. This proposal should represent a substantial effort on the part of the student to develop a research program and provide the committee enough information to determine whether it is likely to succeed. The student should expect extensive feedback from the committee on the proposal and use that feedback in developing her or his dissertation. Once he/she has completed her or his dissertation, a student should defend before the committee. Passing the proposal and defense are the final hurdles to the granting of a PhD.