

## Kellogg School of Management Doctoral Program in Finance

The Finance doctoral program provides students with a rigorous background in finance, both theoretical and empirical, economics, mathematics and statistics. These tools, plus opportunities for supervised independent research, enable students to make their own contributions to the understanding of financial markets and institutions. Doctoral students are trained to be future faculty members at leading research universities.

Current theoretical and empirical research in the Department of Finance spans the areas of asset pricing, corporate finance, financial institutions, international finance, market microstructure, regulation, and related economic theory and econometrics. Moreover, PhD candidates have the opportunity to interact with the broader research community at the Kellogg School and the adjacent Economics Department of Northwestern University.

### Requirements and Main Events

The Finance Department's doctoral program is designed to prepare researchers and teachers who can perform at the top of their profession. Since Finance is a discipline of Economics, all PhD students are expected to develop solid foundations in Microeconomics, Macroeconomics, and Econometrics, prior to starting work in Finance. The PhD program's overall main emphasis is on research and original thought. Students are expected to write a research paper in their second year, and to make regular research presentations to the department.

While students can enter the program from a variety of disciplines, they must show an appreciation for and willingness to learn economic principles, and they must have developed a certain level of mathematical maturity that includes real analysis, linear algebra, and probability theory at an advanced undergraduate level.

The Finance department's requirements for a PhD degree that apply in addition to Northwestern's graduate school requirements are outlined below. Additional information on the Finance department is available at:

*[www.kellogg.northwestern.edu/finance/curriculum/doctoral.htm](http://www.kellogg.northwestern.edu/finance/curriculum/doctoral.htm)*

### The First Year

In their first year students take required courses, electives, and a comprehensive Microeconomics exam, according to the schedule below. There is no

first-year work requirement.

<b>first year</b>			
<b>fall</b>	Microeconomics I	Econometrics I	Macroeconomics I
<b>winter</b>	Microeconomics II	Econometrics II	Macroeconomics II
<b>spring</b>	Microeconomics III	Econometrics III	Corporate Finance Theory
Microeconomics Exam (Currently in June)			
<b>summer</b>	data training/reading/RA work		

**Required Courses:** All first-year students must complete the Microeconomics sequence and the first two courses of the Macroeconomics sequence offered by the Economics department. Also required is a three-course Econometrics sequence. Students typically take the Econometrics sequence within the Kellogg School, but have the option of taking the Econometrics sequence offered by the Economics Department. The PhD coordinator will help students decide which sequence is more suitable given their individual objectives and preferences. The PhD coordinator must approve any changes to the above schedule.

Students begin their Finance requirements in the Spring quarter with Corporate Finance Theory.

**Microeconomics Exam:** First-year students are required to pass a comprehensive Microeconomics exam that is offered by the Economics Department in the beginning of the summer quarter. A student failing the exam will have the opportunity to retake it prior to the beginning of their second year coursework.

**Summer Quarter:** Students are expected to spend the main part of the summer of their first year in residence in the department. This is a good time to begin exploring data sources available at Kellogg, and to begin reading Finance research papers under the direction of the PhD coordinator or assigned faculty. A student may also have the opportunity to work as a research assistant. This summer is also a good opportunity to begin work on the second year paper.

## The Second Year

In their second year students take required courses, electives, a comprehensive Finance exam, and they complete a research paper, according to the schedule below. Students are also expected to participate in the weekly Finance research seminar, and to complete a work requirement.

<b>second year</b>			
<b>fall</b>	Asset Pricing I	Empirical Corporate Finance	elective
<b>winter</b>	Asset Pricing II	Econometrics of Financial Markets	elective
Finance Exam (in March, retaken in June if necessary)			
<b>spring</b>	Finance Seminar	Research Paper	elective
Presentation of Research Papers (in June)			

**Required Courses:** The required courses in the second year are five doctoral classes offered by the Finance department: Asset Pricing I and II, Empirical Corporate Finance, Econometrics of Financial Markets, and a Finance seminar class whose content varies from year to year. (The latter is distinct from the weekly Finance seminar that students are also expected to attend.)

**Electives:** Elective courses are approved by the PhD coordinator in fall and winter, and an individual advisor in the spring quarter. The Finance Department also offers an Advanced Derivatives PhD course that may suit the interests of some students.

**Finance Comprehensive Exam:** A comprehensive Finance exam must be passed just before the beginning of classes in the spring quarter. In case of poor performance, a student may be asked to retake the exam at the end of the same quarter. The exam covers the material of the first five Finance PhD classes.

**Research Paper and Advisors:** A research paper must be completed during the spring quarter of the second year, and must be presented to the department shortly after the end of the quarter. Spring quarter research and coursework must be supervised by an individual faculty advisor who must be selected by the end of the winter quarter. A second-year advisor need not be the same person as the eventual main dissertation advisor.

**Weekly Finance Seminars:** External speakers, and occasionally internal ones, present research papers at the department's weekly seminar series. PhD students are expected to attend those presentations.

**Work Requirement:** Beginning in year two, a portion of a student's stipend is allocated for TA/RA work for professional development purposes. To qualify for this funding, a student must work 10 hours a week (including summer quarter) as assigned by the department. This work typically involves assisting with the teaching of Kellogg classes. Please contact the PhD coordinator for any questions concerning this requirement.

**Second-Year Evaluation:** The department meets at the beginning of the summer quarter and performs a comprehensive evaluation of every second-year PhD student, taking into account exam performance, the research paper, coursework grades, performance in the work requirement, and participation in weekly seminars. Following this evaluation, all students receive feedback on their strengths and weaknesses. Students with satisfactory evaluations are deemed to have passed all of their qualifying exams and are admitted to candidacy. Students begin thesis research in the same quarter.

**Master's Degree Option:** For students who do not qualify to continue in the PhD program, the department offers the option to continue to earn an MS degree in Finance. The student will receive the MS degree upon satisfactory

completion of Finance Department and Graduate School requirements. Principally, if the student fails the first year Microeconomics comprehensive exam, but has satisfactory performance in classes, the student can take the second-year finance classes towards an MS degree. The student will receive no financial aid and will graduate at the end of the Spring quarter with the MS degree providing satisfactory performance in the second-year finance courses. If the student passes the first year exam but fails to be admitted to candidacy in the second year, the student can receive the MS degree, subject to satisfactory performance in classes. In the latter case, the student will receive financial support until the end of the Spring quarter, at which point the student will graduate.

## Third Year and Beyond

The main activity in the third year and beyond is research toward a thesis, under the direction of one or more faculty advisors.

**Third Year Research Progress Report:** The main activity in the third year is to work towards the research progress report. Doctoral students in Finance are expected to submit a research progress report to the department by the end of the third year, before the start of the Fall quarter of their fourth year. The report summarizes the research that the student has been working on through the third year, and provides a roadmap of how this research will progress through the fourth year. Typically, the report introduces and motivates the main research question, discusses related research, outlines data (for empirical work) or a model (for theoretical work), presents results uncovered, and discusses future work. The research progress report must be approved by a thesis committee selected in accordance to The Graduate School's rules. Students are also required to present this work in seminar form to the department during the Fall quarter of their fourth year.

Students who fail to satisfactorily complete the research progress report requirement will not be allowed to continue in the PhD program and may instead opt for the MS degree (as described above). Students that satisfy the requirement are expected to stay in close contact with their advisor(s) in the fourth year and beyond

**Fourth Year Thesis Proposal:** A thesis proposal must be presented to the department by the end of the fourth year, prior to the beginning of fall classes, and must be approved by the thesis committee. Students that do not pass their PhD proposal graduate with an MS degree, instead. Students' proposals must be made available, in paper and electronic form, to the department at least one week prior to the proposal date.

**Department Presentations:** Following their thesis proposal, students must continue presenting their research to the department in seminar form, at least once a year.

**Finance Seminar:** Students are expected to continue attending the weekly Finance seminars, and to participate in group discussions of the research papers presented.

**Work requirement:** The second-year work requirement remains the same for years three, four, and five. RA or TA opportunities exist for qualifying students whose research takes them beyond their fifth year.

**Job Market and Thesis Defense:** Typically, students enter the job market in their fifth year, although completion of the program in four years is possible. On rare occasions, a thesis advisor may decide that the student is making good progress but a sixth year would be beneficial in producing the best quality outcome. On such occasions, and provided suitable funding arrangements can be made, a student can stay in the program for a sixth year. As a general rule, however, a student should not count on spending a sixth year in the program. The PhD degree is awarded following a successful thesis defense in accordance with The Graduate School requirements.

## Funding and Research Support

**Stipend:** Finance doctoral students are typically funded for 5 years through a combination of sources: stipends, teaching and research appointments, and in some cases teaching appointments. Tuition and health insurance coverage are also provided to the student. Funding is renewable each year and is contingent upon satisfactory academic performance. Additional funding opportunities are available for students in good standing in their 6th year. Funding is provided from the Graduate School (scholarships), the Dean's Office, the Finance Department, and through teaching/research assignments.

**Research and academic support:** The Finance Department strives to provide PhD students with the resources necessary for a successful academic career. Each PhD student is provided with a workspace, a personal computer with office software and access to the university mainframe, including all major statistical packages, library access, online academic journal access and e-mail. More information on research computing can be found at:

*<http://www.kellogg.northwestern.edu/researchcomputing/>*

The Department provides additional financial support for miscellaneous research and academic expenses such as: research software, research expenses, etc. All students are encouraged to participate and present their research at academic conferences. For students who are presenting (or who are co-authors on a paper being presented) at a major finance or economics conference, the Department will provide financial support to cover travel, hotel, and conference registration fees. This travel allowance is subject to approval by the student's main advisor.

## Applying to the Finance PhD Program

Our program focuses on creating scholars who have the desire and capacity to contribute to the academy for many years through the dissemination of knowledge. Our alumni actively publish in top journals, and many continue relationships that began in the doctoral program at the Kellogg School.

The Department seeks students with backgrounds in finance or economics. This may include undergraduate or graduate degrees in economics or finance, or work/research experience in finance or economics. Finance is a quantitative and rigorous discipline. As such, the Finance Department also looks for students with solid quantitative backgrounds, including coursework in mathematics, statistics, or a related quantitative field.

Applications to doctoral programs at the Kellogg School must be submitted through The Graduate School and coordinated with the Kellogg Doctoral Program. The Department accepts either the GRE or the GMAT test.

If you have any questions about the Kellogg School's doctoral programs, please contact Susan Jackman, the coordinator at the Kellogg Doctoral Program office.

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