

# Kellogg School of Management

## Doctoral Program in Finance

### September 2023

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 broadly spans the areas of asset pricing and corporate finance. Active current research topics include macro-finance, financial crises, household finance, international finance, market microstructure, regulation, financial econometrics, and economic development. Moreover, PhD candidates have the opportunity to interact with the broader research community at the Kellogg School, the adjacent Economics Department of Northwestern University, and other departments at 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 and third years, 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 The Graduate School (TGS) at Northwestern, and those requirements are outlined below.

## Residency Requirements

Doctoral students are expected to be on campus full time and involved in the research and teaching activities of the department throughout the year, including summer quarter, to qualify for continued funding. **Students who will be away from campus for more than two (2) weeks during an academic quarter need the approval of their director of graduate study (DGS) and dissertation advisor, if students have a dissertation advisor at this point in their studies.** Unexcused absences may disqualify

students from receiving financial aid from the Kellogg School of Management and/or Northwestern University.

Additionally, doctoral students who are conducting research off campus or who are hired as interns for professional development purposes are required to report these activities to the Kellogg School of Management. Before a student engages in research off campus or accepts an internship, approval must be granted by the student’s DGS and dissertation advisor. Also, a description of the research project or the terms of the internship must be provided, along with the timeframe the student will be away from campus. If an internship is paid, an adjustment to the student’s financial aid package may be made in consultation with the Faculty Director of Kellogg’s PhD Program.

## The First Year

In their first year, students take required courses. There is no first-year work requirement. The schedule below is the typical workload.

first year – expected course load			
fall	ECON 410-1 Microeconomics I	FINC 584-0 Introduction to Econometrics	ECON 411-1 Macroeconomics I
winter	ECON 410-2 Microeconomics II	ECON 480-2 Econometrics II	ECON 411-2 Macroeconomics II
spring	ECON 410-3 Microeconomics III	ECON 480-3 Econometrics III	ECON 411-3 Macroeconomics III
summer	Research Engagement		

**Required Courses:** All first-year students must take the two core sequences of microeconomics and macroeconomics offered by the Economics department. Additionally, they must take an Econometrics sequence composed of FINC-584-0 (taught by the Finance department), and Econometrics II and III (taught by the Economics department). All first-year students are expected to take three courses every quarter. Students can also take a fourth elective course, but this course is neither required nor encouraged.

**Electives:** Elective courses are selected in consultation with the director of graduate study (DGS), based on each student’s background and objectives. The DGS must approve all first-year coursework.

**Core Competence:** First-year students are required to establish competence in Economics. This can be done by achieving a cumulative 3.0 GPA across the nine required courses in the sequence. That is, the equal-weighted average of the grades of all 9 courses should be greater than or equal to 3.0.

Letter grades convert to numerical grades as follows: A=4.0, A-=3.7, B+=3.3, B=3.0, B-=2.7, C+=2.3, C=2.0, C-=1.7, D=1.0, F=0.

**Remediation:** If a student fails to maintain the 3.0 GPA across the nine required classes, the student may petition by email jointly, the DGS and department chair, requesting a probationary period be put in place to continue in the program for their 2<sup>nd</sup> year. The DGS, together with a faculty committee, will evaluate the petition. If the petition is granted, the student and the DGS will determine (in conjunction with a Finance Department faculty committee) an academic plan in the second year to demonstrate competency. The academic plan should be uploaded into the “General Section” found within the Documents tab of GSTS. This plan may consist of retaking some first-year classes or taking advanced classes in the same academic area (Microeconomics, Macroeconomics, or Econometrics) with deficient grades in the first year. Students whose petition is not granted will not qualify to continue in the PhD program and will be excluded (dismissed) from the PhD program.

Students can appeal an exclusion decision directly to [The Graduate School](#) (TGS).

**Academic Advisor:** Upon entry into the program all students are assigned an Academic Advisor. The advisor will be selected by the DGS, based on each student's background and stated interests. The role of the academic advisor is to provide guidance to the PhD student, especially in their first and second year. Students should meet with their academic advisors once a quarter and upload into the “General” section found within the Documents tab of GSTS their signed Quarterly Check-in form by the last day of each quarter. The Academic Advisor does not need to be part of the student's Dissertation Committee later on.

**Summer Quarter:** Students are expected to spend the summer of their first year in residence in the department. This is a good time to begin exploring data sources available at Kellogg, begin a research project, or to begin reading Finance research papers under the direction of a Kellogg faculty. Students can choose their own faculty summer advisor(s) or the Director of Graduate Studies (DGS) can help match students to faculty based on their proposed research area. Students will outline the summer research they undertook on the Summer Research Engagement form and upload the form, signed by their summer research advisor, into the “General” section found within the Documents tab of GSTS by August 31<sup>st</sup>.

**Annual Review** – Academic and research progress must be reviewed annually by the student and their advisor. Students and advisors should complete the Annual Review Checklist form and upload the signed document into the “General” section within the Documents tab of GSTS by August 31<sup>st</sup> of each academic year.

**Managerial Economics and Strategy Master’s Option:** For students who choose to not continue in the Finance PhD program after year one and are in good academic standing, the department offers a MS degree in Managerial Economics & Strategy. Students must complete a minimum of nine (9) graded courses, maintain an overall minimum 3.0 GPA. No master’s thesis is required.

Candidates for the MS degree are required to satisfy:

- 3 courses/credits of Microeconomics
- 3 courses/credits of Econometrics
- 3 doctoral courses/credits from an approved list of courses within Macroeconomics and Econometrics.

To qualify for the MS degree, the student must have the approval of the Department Chair and Director of Graduate Studies based on a review of the student’s overall performance in the PhD program. The Department Chair (MS chair) and Director of Graduate Studies (committee members) will also form the student’s MS committee. The student will receive the MS degree upon satisfactory completion of Finance Department and Graduate School requirements.

## 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.

second year				
fall	Corporate Finance I	Asset Pricing I	KPHD-520	elective
winter	Corporate Finance II	Asset Pricing II	elective	elective
spring	Corporate Finance III	Asset Pricing III	elective	elective
Finance Prelim Exam (early June)				
Presentation of Research Papers (early September)				

**Required Courses:** The required courses in the second year are six doctoral classes offered by the Finance department: Asset Pricing I, II and III, and Corporate Finance I, II and III and KPHD-520, Workshop on Research Development.

**Electives:** Students are required to take an additional course every quarter during their second year. Students are encouraged to select second year Elective courses from the Economics Department. Examples of such classes include Labor Economics, Advanced Macro, Econometrics, Information Economics and Industrial Organization. All elective courses need to be approved by the DGS.

**Academic Advisor:** Students should meet with their academic advisors once a quarter and upload into the “General” section found within the Documents tab of GSTS their signed Quarterly Check-in form by the last day of each quarter. Students can select a new advisor for their 2<sup>nd</sup> year or continue working with the advisor assigned by the DGS during their first year. The Academic Advisor does not need to be part of the student's Dissertation Committee later on.

**Finance Comprehensive Exam:** Students must pass a Finance Competence Requirement. This can be done by achieving a 3.6 GPA across the six finance doctoral courses, or by passing a comprehensive Finance exam. The Exam takes place at the beginning of the summer quarter, typically in June. Students who fail the comprehensive exam will be excluded from the program.

Letter grades convert to numerical grades as follows: A=4.0, A-=3.7, B+=3.3, B=3.0, B-=2.7, C+=2.3, C=2.0, C-=1.7, D=1.0, F=0.

**Research Paper and Advisors:** Students need to complete a research project (typically referred to as the 2nd year paper) to be presented to the department in the first week of September following the summer quarter of the second year. The research project must be supervised by an individual faculty advisor (who can be the same as, or distinct from, the **Academic Advisor**) and selected by June 15<sup>th</sup> of their second year. Students must enter the name of their 2<sup>nd</sup> year paper advisor in the “Research Project” section of the Research Project tab of GSTS. The Second Year Research Paper Advisor does not need to be part of the student's Prospectus or Dissertation Committee later on. Upon completion, students need to upload to the “General” section within the Documents tab of GSTS the completed paper. By the end of the fall quarter of their third year, students also need to upload the completed second year paper to this section of GSTS. Students should contact the department ACES (Academic Event Staff) coordinator to schedule a date for their presentation.

The second-year project serves as an introduction to research in finance and as an evaluation of the candidate's aptitude for performing original research that can eventually be transformed into a publishable paper. The primary metric for evaluating the second-year project is whether it asks an interesting research question. Along these lines, the student should formulate the research question in clear economic terms, explain why it is important to provide an answer in connection to the existing research, and make some progress towards providing an answer. Examples of sufficient progress are: 1) identifying and assembling a new dataset, along with the documentation of some stylized facts; 2) a novel identification strategy that provides an estimate of an interesting causal effect; or 3) formulating a new model -- or extending an existing model -- together with some indication of progress towards characterizing the solution. Students are expected to answer faculty questions about the existing literature and their chosen line of research and future plans. The second-year project often forms the basis for a thesis topic, but it is not necessary that it does so.

The student should demonstrate mastery of the literature on a specialized topic and should be able to explain the broader significance of the chosen topic. Further, the student should formulate an interesting question that addresses a gap in the existing literature and offer some initial proposal on how to go about answering this question. Sufficient progress could consist of initial steps of assembling a new dataset and/or the documentation of some stylized facts. In the case of theoretical research, the formulation of a new model or extension of an existing model together with some indication of progress toward solving the model would constitute sufficient progress.

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

**Work Requirement:** Students work as GA, RA, and TAs for three years, spanning years two, three, and four. An academic year contains four quarters: fall, winter, spring, and summer. A portion of the stipend will be allocated toward wages for approximately 10 hours of work per week (100 hours total for the quarter), including summers. Students are not required to TA more than 6 (six) quarters total during this three-year period. The director of graduate study (DGS) oversees all work assignments.

During the summer of the second year RA work is required, while during the summer of year three and four RA work is encouraged, rather than TA or GA work. Students who work as Research Assistants to faculty can choose the faculty they will work for, or the director of graduate study can help match them

to faculty according to their research interests. Students will outline the summer research they undertook on the Quarterly Check-in form and review with their advisor during their Annual Review by August 31<sup>st</sup> of each academic year.

The DGS needs to approve all TA and RA assignments, including any teaching for executive or Economics Department classes beyond the 100-hour requirement. Students should request permission from the DGS for any compensated job outside or inside the University. From all sources of work, students are not allowed to work over 20 hours per week; this is a TGS requirement.

**Candidacy:** The department meets at the end 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, and participation in weekly seminars. Following this comprehensive evaluation, students with satisfactory evaluations are considered to have passed the Qualifying Exam and are admitted to candidacy. The DGS sends a list to the PhD team who then submits the Qualifying Exam form into GSTS. Students that do not successfully pass the Qualifying Exam can appeal this decision directly to The Graduate School (TGS). The Finance department does not have a formal appeals process. Please refer to [this page](#) on the TGS website for more information. Any appeals would be submitted and reviewed by TGS.

**Annual Review** – Academic and research progress must be reviewed annually by the student and their advisor. Students and Advisors should complete the Annual Review Checklist form. Students should upload the signed document into the “General” section within the Documents tab of GSTS by August 30<sup>th</sup> of each academic year. The 2<sup>nd</sup> year Annual Review should be done by the 2<sup>nd</sup> year paper advisor.

**Finance Master’s Degree Option:** The department offers the option to earn an MS degree in Finance at the end of year two. The student will receive the MS degree upon satisfactory completion of Finance Department coursework sequences in year two, maintaining a 3.0 overall GPA.

## Third Year

Following admission to Ph.D. candidacy, students work on research toward a thesis, under the direction of one or more faculty advisors. The main goal of the third year is producing a research paper that is of publishable quality.

**Coursework:** Depending on their research objectives, students are encouraged -- but not required -- to take additional classes in their third year. All coursework must be approved by a faculty advisor and the director of graduate study.

**Dissertation Committee:** Students are expected to choose a dissertation chair by November 15<sup>th</sup> of their third year and enter their decision into the Committee tab of GSTS. Students need to notify thru GSTS their dissertation chair choice. Students are responsible for ensuring the advisor accepts the invitation. Only when the advisor accepts the request in GSTS to be the dissertation chair is the process complete. Students should contact the DGS if they encounter any issues. This choice is not final; students can change their dissertation supervisor later, but this is uncommon.

**Academic Advisor:** Students should meet with their Advisor once a quarter and upload into the “General” section found within the Documents tab of GSTS their signed Quarterly Check-in form into GSTS by the last day of each quarter.

**Department Presentations:** Starting in their third year in the program, students are required to present their work in progress to the department twice per year, once in the Fall and once in the Spring departmental seminar. The students need to schedule these presentations at the beginning of the year with the Finance staff team member or faculty member who is coordinating the departmental brownbag seminar. The ACES (Academic Event Staff) Coordinator will provide the DM the names of the PhD students who did not participate in the sign-up for follow-up.

The student’s second year paper presentation in September of their second year counts as meeting the fall presentation requirement for year three.

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

**Work requirement:** The third-year work requirement remains the same as in year two. Students are expected to be on campus full time as GA, RA, and TAs. During the summer, students work as Research Assistants to faculty. Students will outline the summer research they undertook on the Quarterly Check-in form and review with their advisor during their Annual Review by August 31<sup>st</sup> of each academic year.

**Third Year Paper Requirement:** At the end of the third year, students are required to present a completed research paper to the department by the end of June of their third year and upload to the “General” section within the Documents tab of GSTS the completed paper. The research paper has to be sufficiently advanced that it is part of the student's dissertation -- though it need not be the first chapter.

In addition to fulfilling the requirements of the second-year paper, the third-year paper should demonstrate substantial progress toward an original piece of research. The paper could be an advance of the second-year paper, or it can tackle a new topic. In either case, the paper should address an economically interesting question, and should provide a clearly identifiable contribution to the literature. The paper needs to introduce and motivate the main research question, outline data (for empirical work) or a model (for theoretical work), present new results, discuss how these results contribute to existing research, and outline future work. The student should provide an outline of future work.

**Annual Review** – Academic and research progress must be reviewed annually by the student and their dissertation chair (advisor). Students and Advisors should complete the Annual Review Checklist form. Students should upload the signed document into the “General” section within the Documents tab of GSTS by August 31<sup>st</sup> of each academic year. The 3<sup>rd</sup> year Annual Review should be done by the dissertation chair who also now serves as the student’s advisor.

## Fourth Year

The main activity in the fourth year and beyond is research toward a thesis, under the direction of one or more faculty advisors. In the fourth year, students need to satisfy a Proposal Requirement.

**Fourth Year Thesis Proposal (“Prospectus”):** By the fourth year, the student is expected to have settled on a thesis topic. Students need to complete their dissertation proposal (“Prospectus”) by the end of the fall quarter (December 10) in their fourth year and upload a copy of their dissertation proposal into the “General” section within the Documents tab of GSTS. The DGS sends a list of who has completed their proposal to the PhD team for processing and submitting the Prospectus form in GSTS.

The purpose of the dissertation proposal defense is to present a well worked out dissertation plan to the committee. The committee must be able to evaluate with confidence whether the dissertation proposed meets quality standards and can be successfully executed by the student. The dissertation proposal should articulate a plan through three papers, one of which should be at an advanced stage.

The main component of the proposal is an original research paper. The paper can be distinct from the second-year project or the third-year paper. In addition to the requirements for the second- and third year papers above, the paper needs to be sufficiently well developed as to have a clear path towards eventual publication in a peer-reviewed journal. If the student enters the academic job market in the fifth year, this paper will be the student’s job market paper.

The student’s dissertation committee must approve the proposal. To grant approval the committee should believe that the candidate will be able to produce papers publishable in a top field journal. The meeting with the dissertation committee is open to the Northwestern academic community. Students may and should attend other students’ proposal defenses. When evaluating the student, the committee will take into account the student’s previous efforts during the third year.

Students who do not pass the proposal in the fall of their fourth year are on probation. They have *only one additional opportunity* to pass their proposal, by the end of the Spring quarter in year four or a maximum two-quarter extension. The proposal decision rendered by the Finance faculty is final. Students who fail their proposal [may appeal](#) this decision directly to TGS. Students who do not pass their PhD proposal after the second opportunity may graduate with an MS degree.

**Academic Advisor:** Students should meet with their dissertation chair once a quarter and upload into the “General” section found within the Documents tab of GSTS their signed Quarterly Check-in form by the last day of each quarter.

**Department Presentations:** During their fourth year in the program, students are required to present their work in progress to the department twice per year, once in the Fall and once in the Spring departmental seminar. The students need to schedule these presentations at the beginning of the year with the Finance staff team member who is coordinating the departmental brownbag seminar. The ACES (Academic Event Staff) Coordinator will provide the DM the names of the PhD students who did not participate in the sign-up for follow-up.

The student’s proposal in year four counts as one (or two if the student resubmits the proposal in the Spring quarter) of these presentations.

**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 fourth-year work requirement remains the same as in years two and three. Students are expected to be on campus full time as GA, TA, or RA's. During the summer, students work as Research Assistants to faculty. Students will outline the summer research they undertook on the Quarterly Check-in form and review with their advisor during their Annual Review by August 30<sup>th</sup> of each academic year.

**Annual Review** – Academic and research progress must be reviewed annually by the student and their dissertation chair (advisor). Students and Advisors should complete the Annual Review Checklist form. Students should upload the signed document into the “General” section within the Documents tab of GSTS by August 31<sup>st</sup> of each academic year. The 4<sup>th</sup> year Annual Review should be done by the dissertation chair.

## **Fifth Year and Sixth Year**

**Job Market and Thesis Defense:** PhD students work on completing their dissertation and defend normally at the end of their 5<sup>th</sup> or 6<sup>th</sup> year in the program. The dissertation, which consists of three separate chapters, should make a well-motivated and original contribution to the finance and economics literature. The Finance Department advises, but does not require, that at least one of the chapters is solo-authored. In the dissertation defense, the candidate should be able to explain the contribution relative to the literature in clear terms, defend the significance of the contribution, and offer a broader vision of a research agenda.

Typically, students enter the job market in their fifth year. 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. The PhD degree is awarded following a successful thesis defense in accordance with The Graduate School requirements.

**Academic Advisor: During their fifth and sixth year in the program,** students should meet with their dissertation chair once a quarter and upload into the “General” section found within the Documents tab of GSTS their signed Quarterly Check-in form by the last day of each quarter.

### **Department Presentations:**

**Finance Seminar:** During their fifth and sixth year in the program, students are required to present their work in progress to the department twice per year, once in the Fall and once in the Spring departmental seminar and confirm their participation with the Finance team member who is coordinating the scheduling of these presentations. The ACES (Academic Event Staff) Coordinator will provide the DM the names of the PhD students who did not participate in the sign-up for follow-up.

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

**Annual Review** – Academic and research progress must be reviewed annually by the student and their advisor. Students and Advisors should complete the Annual Review Checklist form. Students should upload the signed document into the “General” section within the Documents tab of GSTS by August 31<sup>st</sup> of each academic year. The 5<sup>th</sup> and 6<sup>th</sup> year Annual Review should be done by the dissertation chair.

**6<sup>th</sup> Year Funding** – In the fall quarter for students who enter the job market in their 6<sup>th</sup> year, the department and Kellogg will provide a stipend of \$12,000, payment of the fall tuition, and the annual student health insurance fee.

## Funding and Research Support

**Stipend:** Finance doctoral students are funded for 5 years through a combination of sources: stipends, teaching and research 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.

**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 funds to purchase a personal computer. Students also have access to multiple university computing clusters that have all major statistical packages, library access, online academic journal access and email. Please refer to the Kellogg Research Support [webpage](#) for more information on Research Support can be found at:

**Conference Travel:** Students are provided with a \$4,000 conference travel grant to use while enrolled in the PhD program; students must also be in good academic standing to access funds. To qualify for funding, students must be invited to present their paper at the conference or invited to serve as a paper discussant. The conference invitation should be included with their proposed conference travel budget, which is reviewed/approved by the Director of Graduate Studies (DGS). This funding may also be used when students enter the job market and attend the ASSA meeting when interviewing. Note: Funding for conferences cannot and will not be approved retroactively.

Additionally, through their Conference Travel Policy, The Graduate School (TGS) provides funding for costs associated with attending academic conferences. They do not require that students present a paper, so just attending a conference would qualify for funding. Partial funding may come from TGS that is matched by the Finance Department. TGS provides two trips up to \$800 each. See the TGS travel grant website for details.

**Applying for Research Funding:** Students who have more substantial needs, such as funds to purchase data, run experiments or hire RAs, should plan to seek out support from other sources, both inside and outside the university. Students may submit an application for research funding through the PhD Program – contact the PhD administrative team with questions. An application needs the support of the student's research advisor. The application requires a summary of the project and a proposed budget. This funding is for dissertation research only, and joint work with faculty would not qualify for this funding application. Faculty have other means to secure research funding. Once submitted the application is then reviewed by the Faculty Director of Kellogg's PhD Program. If approved, funding is then released to the student by the Senior Associate Dean for Faculty & Research.

## **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.

Our doctoral program 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 the GRE and GMAT exams; however, the GRE is preferred.