Northwestern | Economics

Graduate Connection

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News

Happy Holidays!

The faculty and staff extend their best wishes for a happy holiday season. The University is officially closed from the end of business on Tuesday December 23 and reopens on the morning of Friday January 2. During the closure period your Wildcard is needed to access the building.

In addition, our administrative offices will be closed on Monday and Tuesday December 22 and 23 and Friday January 2. On these three days, e-mail Christy Bullion if you need assistance.

Winter Quarter Start Date

The first day of Winter Quarter is Monday, January 5.

Distinguished Teaching Assistants

Distinguished The Teaching Assistant Awards for 2024-25 were presented at the reception on December 1. The winners of a certificate, a limited-edition coffee mug, and a year's membership to the Econometric Society or the American Economic Association were Aaron Amburgey, Tessa Bonomo, Kyra Carmichael, Yuejun Chen, Nina Fluegel, Hongchang Guo, Elizabeth Jaramillo, Eleftheria Kelekidou, Jose Lara, Takaaki Sagawa, Pablo Sanchez, Chace Williamson, Zhen Xie and Hellary Zhang.

These awards are given to the top third of our Teaching Assistants,

based on student and faculty evaluations. These awards have been listed prominently on the vita of our students on the job market, and act as a strong signal to potential employers of your teaching capabilities. This is especially true for students from countries where English is not the first language.

Susan Bies Research Prizes

Also awarded were the Susan Schmidt Bies Prizes for Doctoral Student Research on Economics and Public Policy. The awards are given to the best public policy papers presented as part of the Economics 501 seminar. The winners for 2024-25 were **Netanel Ben-Porath** for "Democratizing Education? Schooling as an Elite Strategy in Times of Reform" and **Pedro Bitencourt** for "Missing Lines: Investment Frictions in Electricity Transmission."

The prizes were generously donated by alum **Susan Schmidt Bies** (PhD, 1972). Her professional career included serving on the Board of Governors of the Federal Reserve System.

Robert Eisner Memorial Fellowship

Also awarded were fellowships to honor the late faculty member and AEA President Robert Eisner. For 2025-26, the Fellowships are awarded to **Max Pienkny** and **Ramya Raghavan**. The fellowship(s) are awarded annually to students who have distinguished themself in both teaching and research. Usually, but

not necessarily, the fellowships are awarded to fourth year students.

Graduate Studies Committee

The Graduate Studies Committee is a forum for feedback from graduate students to the faculty on the graduate curriculum, programming, and administrative processes. It meets each quarter.

The three elected student representatives for AY 2025-26 are Kyra Carmichael (Third Year), Adelyn Carney (Second Year) and Jacob Gosselin (Fourth Year). Students are encouraged to share academic and administrative concerns and suggestions with their representatives.

Nobel Prize!

Joel Mokyr is a co-winner of the 2025 Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel.

Another of the co-winners is **Peter Howitt** who is a 1973 alum of our PhD program. Professor Howitt will be visiting the department and giving a seminar in either March or April.

See the events section for details on a watch party to view Joel and Peter receive their awards.

Visitors and Postdocs

Micah Villarreal, an economic history postdoc, remains with us for the entire academic year.

Two additional visitors are joining us for Winter and Spring Quarters: theorist **Asen Kochov** from the University of Rochester and theorist **Sara Shahanaghi** from the Toulouse School of Economics

Additional visitors in the Spring Quarter will be introduced in the March *Graduate Connection*.

For Your Information

Help and Support

We have collated together a list of help and support resources, both within the department and within the university. It is in the <u>Graduate > Current Student Resources</u> part of our website, and also in the <u>Graduate Student Handbook</u>. If you have any suggestions for additional topics, please tell **Lola Ittner**.

Graduate Student Opportunities Website

The Department has a website for graduate students with information on:

- Conferences
- Resources at NU
- Fellowships
- Programming at NU
- Events outside NU
- Counseling Services (CAPS)
- Job Opportunities

See the weekly update e-mail or visit: https://sites.google.com/view/nuecon-grad-opportunities/home

Good Progress Milestones

TGS requires that students receive annual feedback on their progress. In Economics this is done (for students currently in years two and above) by meeting with a faculty member and obtaining their signature certifying that you have met specific milestones.

Please take a moment to review these on our <u>website</u> so that you are well prepared for certifying good progress next summer.

For Those Serving as RAs or TAs

The department has prepared handbooks for those working as Research Assistants (RAs) or Teaching Assistants (TAs). In addition to containing practical information, these documents contain information

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on these positions required as part of the collective bargaining agreement with NUGW-UE. These manuals are an integral part of your appointment letters. Read them at:

- Teaching Assistant Manual
- Research Assistant Manual

Calendar & Events

Nobel Watch Party

Faculty, staff, and graduate students are invited to a watch party in the light court at 9AM on **Wednesday December 10**. Coffee and pastries will be catered. This is for the ceremony when Joel Mokyr and Peter Howitt (PhD, 1973) will receive their awards. If you have not already sent an RSVP, you can do so at this link.

This is separate event from their Nobel lectures which are at 7:30AM CST on Monday December 8. Information on streaming the lectures is at this web link.

Upcoming Holiday Season

Friday December 12 – Last day of Fall Quarter exams

Monday December 15 – Grades due - TAs must be available in Evanston until 3pm

Monday & Tuesday December 22 and 23 – Departmental administrative offices closed

Wednesday December 24 –
University closed for Winter Recess
Friday January 2 – University
reopens, but departmental
administrative offices closed

Monday January 5 – First day of Winter Quarter. TAs must be in Evanston to commence duties. Departmenatl administrative offices reopen.

AEA Annual Meeting

The annual meetings of the American Economic Association are in Philadelphia and run from Saturday to Monday **January 3-5**.

Martin L. King Jr. Day

On **Monday, January 19**, the University is closed, and all classes are canceled in observance of Dr. Martin Luther King Jr. Day.

Graduate School Deadlines

Deadlines for students wishing to receive an MA or a PhD degree in March.

January 30: Application for a Degree. **February 27:** Completed dissertation and all supporting materials for the PhD degree.

March 13: Final examination report and any change of grade forms for the MA degree.

If you wish to receive an MA or PhD degree in June, the Application for a Degree is **February 6**.

Spring Break!

Friday March 20: Last day of Winter Quarter exams.

Monday March 23: Grades due - TAs must be available in Evanston until 3PM.

Tuesday March 31: First day of Spring Quarter. TAs must be in Evanston to commence duties.

Save the Date

Monday April 6: rescheduled Susan Bies (PhD, 1972) departmental lecture on economic policy by Michael Kremer of the University of Chicago.

Thursday April 9: prospective PhD visit day.

Thursday and Friday April 16 and 17: conference on gender and household economics organized by

Abi Adams and Maddalena Ronchi (Kellogg Finance)

Friday May 22: Center for the Study of Industrial Organization alumni conference

Friday and Saturday May 29 and 30: conference in honor of Joel Mokyr. More details on these and additional events will be in the March *Graduate Connection*.

Teaching

Maintaining Full-time Status

You must be registered for at least three course credits each quarter to be considered a full-time student.

First year students are automatically full time in Fall, Winter and Spring as they are registered for 410, 411 and 480.

For students in years 2 and 3 in Fall, Winter and Spring Quarters, if you are registered for two courses you must add one unit of Economics 590. If you are registered for one or zero you must add TGS 500. TGS 500 is listed for zero credits but assures full-time status (and allows registration in up to one course).

Students in years 4 and above should register for TGS 500 (or TGS 512 in certain circumstances) which is considered full-time registration.

Students in all years should register for TGS 500 in summer quarter.

Incomplete Grades

The Department has a policy to avoid excessive awarding of incomplete grades. Please see our website for a complete statement. Report any problems to the Director of Graduate Studies.

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This Quarter's Course Descriptions

Advice on Field Sequences

The Department has guidance on acceptable field course sequences. These are posted in the Graduate > Degree Requirements and Goals > Second- and Third-Year Goals section of our website.

Department of Economics Classes

Economics 414-2

Economics of Information Professor Strulovici MW 1:30-3:20

KGH 3301

The course introduces conceptual frameworks, recent advances, and open research questions in applied fields for which theory underdeveloped, including law and economics, health economics, institutional economics, and specific topics such as the economics of privacy and discrimination. In addition, part of the class is dedicated to recent work at the intersection of economics and computer science.

The course has two audiences: theorists looking for meaningful applications and applied economists looking for interesting theoretical tools and insights to incorporate in their research. It also aims to develop skills formalizing, identifying, analyzing questions in applied fields using mechanism design, information economics. and other modern theoretical methods and concepts.

Evaluation is by two or three assignments and the submission or presentation of a research project.

Students who took ECON 414-2 for credit in a previous year when the topic and instructor were different and want to take this offering for credit should register for independent study with Professor Strulovici (ECON 499-0-89).

Economics 416-2

Advanced Macroeconomics
Professor Känzig
MW 3:30-5:20 KGH 3301

This is a course on modern empirical macroeconomics, covering recent advances on identification and how microeconomic data can be used to better understand macroeconomic phenomena. It surveys the recent empirical surge in work macroeconomics and discusses how putting more emphasis on research design combined with more and better data has improved credibility and transparency, and how the new evidence can help to discriminate among competing theories.

The course aims to build up empirical tools and bring students to the research frontier. It covers two distinct approaches. The first exploits time-series variation for identification, exploiting narrative, high-frequency, or other external information, and is identifying top-down in macroeconomic effect and mapping out the heterogeneous effects. The second approach is starting bottom-up from microeconomic data, such as crosssectional or panel data on households, firms, or regions, to estimate a partialequilibrium effect and impose additional structure to back out the aggregate effect. Throughout, the course covers exciting applications, ranging from the transmission of monetary and fiscal policy to the aggregate and distributional effects of energy price shocks and climate policy.

Evaluation is based on homework assignments, and an original research project.

Economics 420-2

European Economic History Professor Mokyr TTh 9:00-10:50 KGH 3301

The course is devoted to recent topics in economic history written in

the language of modern economics and relying on its methods. Economic theory and econometric methods have been applied to historical issues utilizing new and innovative databases. The course surveys a sample of this recent literature, provides historical context for them, and aims to motivate and stimulate similar research.

Each class is devoted to a different topic that has been of concern to researchers in the field. Class attendance is required and is monitored, and non-attending students may be dropped from the course.

Each class session from lecture 3 onwards combines a lecture with student's presenting a "mock referee report" on an assigned paper from the reading list.

Evaluation is based on the in-class presentation and a substantial research paper, due one year after the end of the course.

Economics 425-2

Development Economics
Professor Sharma
MW 1:00-2:50 KGH 1410

This course studies firms in developing countries. Topics covered include misallocation, technology adoption, market power, and firms in the labor market.

Evaluation is based on a combination of referee reports, class readings and participation, and a research proposal.

Economics 436-2

Public Finance Professor Schnell TTh 1:30-3:20

Health Economics. This course introduces theoretical models and empirical applications in health economics. Topics include the production and measurement of health, the provision and design of

KGH 3301

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health insurance, determinants and consequences of provider behavior, and competition in health care markets. Common empirical tools used in applied microeconomics research are emphasized throughout.

Evaluation is based on in-class presentations of research papers, a final exam, and an original research proposal or project.

The course complements Professor Dranove's MECS 551-1 in Spring Quarter 2026 to form a sequence in health economics. That course was rescheduled from Fall Quarter 2025.

Economics 450-2

Industrial Organization Professor Illanes MW 11:00-12:50

KGH 1410

This course covers core topics in industrial organization. It focuses on empirics but covers relevant theory as needed. Topics include nonparametric identification of demand and supply models, entry, moment inequalities, search, price discrimination, bargaining, auctions, and matching markets.

Economics 481-1

Advanced Econometrics Professor Horowitz TTh 3:30-5:20

KGH 3301

High-Dimensional Estimation and Inference. Many data sets used in economics empirical contain hundreds or thousands of variables that are potentially relevant to the phenomenon being investigated. In big datasets that have become available in recent years and in some nonparametric estimation methods. the number of potentially relevant variables may exceed the sample size. An empirical researcher must decide which variables are and are not relevant to the application. The LASSO is one method for doing this but is not the only method and is not necessarily the best one. This course

describes methods for selecting relevant variables (model selection) and carrying out inference about the parameters of the selected model (e.g., forming confidence intervals).

Topics include penalized estimation, model selection, computational methods for penalized estimation, empirical methods for selecting tuning parameters, high-dimensional instrumental variables estimation, and inference with penalized estimators.

Evaluation is based on two or three problem sets, weekly one-page memos, and a paper. In addition, each registered student must give a presentation to the class. There are no examinations.

Students who took ECON 481-1 for credit in a previous year when the topic was different and want to take this offering for credit should register for independent study with Professor Horowitz (ECON 499-0-38).

Economics 483

Applied Microeconometrics Professor Manski MW 9:00-10:50 KGH 3301

This course integrates elements of welfare economics and consequentialist decision theory with econometric study of partial identification to study social planning under uncertainty. Planning problems to be analyzed include treatment choice using data from randomized trials, clinical decisions in medicine, income tax, and climate policy.

Evaluation is based on an original research paper due at the beginning of Spring Quarter. There are no exams or problem sets.

ECON 483 can be used as part of an applied microeconomics sequence or an econometrics sequence but cannot be used for both.

Economics 498-2

Advanced Topics in Economics
Professor Rognlie
TTh 11:00-12:50 KGH 1410

Quantitative Macroeconomics. This course covers frontier topics in quantitative macroeconomics, with two main themes, which alternate throughout the course. The first theme macroeconomic models heterogeneity. There is a special focus on models of household consumptionsavings behavior, including their microeconomic fit, their implications for long-run questions like the natural interest rate, and how they can be developed into a heterogeneousagent New Keynesian ("HANK") framework. It also briefly covers models with heterogeneous firms.

The second theme is useful computational techniques and their applications in macroeconomics more generally. This includes core tools like splines, quadrature, and higher-order perturbation, and some state-of-the-art techniques that make it possible to combine heterogeneity with other topics such as departures from rational expectations, portfolio choice, and optimal policy.

Evaluation is based on problem sets and a final project.

Other Departments' Classes

See the Department's field sequence guidance before registering for any of these classes.

Finance 585-2

Asset Pricing II Professors Jiang / Papanikolaou W 9:00-12:00 KGH 4302

This course covers advanced topics in the intersection of finance and macroeconomics. The class emphasizes current topics along with state-of-the art tools.

The first part covers the basics of dynamic models of arbitrage pricing, portfolio choice, empirical tests in time

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series and cross-section, and equilibrium in frictionless markets.

The second part covers a selection of topics of current interest: asymmetric information, incomplete markets, financial intermediation, international finance, and production-based models.

Evaluation is based on problem sets which emphasize both analytical as well as numerical skills. Familiarity with a modern computing language (MATLAB, Julia, or C++) is assumed.

Though the course proceeds at a brisk pace, familiarity with the material in FINC 585-1 is not required.

Finance 586-2

Corporate Finance II
Professors Benmelech / Matvos
F 9:00-12:00 KGH 4302

This first half of the course provides a review of topics related to financial intermediation including empirical tests of lending relationships, banks and the macroeconomic economy, securitization, and household finance. The second half of the course focuses on structural models of financial intermediation covering models pertaining to the assets and liabilities of financial intermediaries and quantitative models of bank stability.

Finance 586-1 is a prerequisite, as is a good knowledge of applied econometrics.

MECS 540-3

Political Economy: Social Choice and Voting Models Professor Egorov W 9:00-12:00 KGH 4273

This course is about various aspects of collective decision-making, both on the microeconomic level (how people aggregate information and preferences through voting) and on the big picture level (how societies choose institutions to live under).

Initially some classical results from social choice are reviewed and

limitations of the cooperative approach are highlighted. The course then analyzes strategic behavior in collective decision-making such as voting over agendas and legislative bargaining. The next topic deals with elections and decisions on whether and how to vote, whether to run, and how to campaign. The course then considers institutions including revolutions and coup d'états, and how, when and why countries democratize. The final topic is models of forwardlooking behavior in collective decisionmaking and dynamics of institutions.

Evaluation is based on attendance and presentations of a few papers from the syllabus.

MECS 548-0

Innovation and the Science of Science Professors Hill / Jones T 3:30-6:30 KGH 4301

The course introduces both macroeconomic and microeconomic approaches to assessing the "ideas production function," with special attention given to the roles of human capital, institutions, and incentive systems. The role of science and scientific progress are also considered in depth.

The course emphasizes how the unusual characteristics of ideas can result in social inefficiency, and how the institutional and policy environment influences the gap between private and social welfare. In tandem with theoretical approaches, this course reviews the core empirical literature, including methods and data sets that are suited to studying ideas and innovation.

The course is appropriate for students in economics, as innovation touches virtually all fields of economics including economic growth, industrial organization, labor economics, finance, the economics of organizations, and urban economics. The course also provides an inroad to the growing field of the "science of science," which emphasizes the use of

high-scale data, network methods, and machine learning. It also considers the implications of artificial intelligence for science, innovation, and economic growth.

Evaluation is based on two referee reports and a group research paper proposal (8-10 pages) relevant to the topics of the class. This course can form a sequence with MECS 549-1, but either course may be taken as stand-alone material.

MECS 550-3

Economic Theory III: Doing Research in Economic Theory and Related Areas Professor Sandroni W 6:00-9:00pm KGH 4273

This course relies on informal discussions of research ideas. The main objective is to find good dissertation projects and to develop these projects. In sum, the main idea is to facilitate the transition from student to researcher using a learning by doing approach.

This year there might be some emphasis on the use of artificial intelligence in economics research. Other research topics include non-Bayesian learning theory and political economy, but many other research areas are also considered. The research topics depend on students' interest and are typically determined in the first and second classes.

There are no exams.

MECS 560-2

Dynamic Optimization in Economics Professor Molavi T 3:00-6:00 KGH 4302

The course covers models and mathematical techniques for discrete and continuous-time dynamic optimization under uncertainty, with an emphasis on applications in economics. It covers the variational approach, dynamic programming, Bellman equation and the principle of

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optimality, the optimal-control approach, the HJB equation, stopping-time problems, multi-armed bandits, and the Gittins' index theorem.

Evaluation is based on several problem sets and a final exam. The main textbooks are *Recursive Methods in Economic Dynamics* by Stokey, Lucas, and Prescott (Harvard U.P., 1989), *Introduction to Modern Economic Growth* by Acemoglu (Princeton U. P., 2009), and *Optimal Stopping and Applications* by Ferguson (online lecture notes).

Econ 501 Seminar

The draft assignment of people to dates and times for Spring Quarter are announced by e-mail on February 1. The (random) order of presentations was included in last March's edition and is:

Zahedian, Saam Parameswaran, Vaidehi Takatsuji, Eisho Carmichael, Kyra Kedrosky, Davis Krueger, Ben den Besten, Tamar Baker, Camile Chen, Yuejun Hirvonen, Johannes Mao, Yifan Zanotti. Luca Goth, Aidan LaBelle, Jesse Hanzel, Charles Nussbaum, Shaya Zhang, Hellary Bae, Siye Guo, Hongchang Bui. Sarah Miles, Russell von Ungern-Sternberg, Vitor Campos, Marcos Freitas, Luis

Funding

Spring Quarter Funding

Spring Quarter funding encompasses the March, April, and May paychecks. The last day for notifying us of any changes to your existing funding for Spring is **February 15**. As this Falls on a Sunday, the deadline is 9AM on **Monday February 16**.

If you obtain a new external fellowship, send the details and your offer letter to the Graduate Program Manager. If you are being appointed as a stipend RA, the faculty member fills in an online form detailing the funding source for the RAship.

NU Dissertation Year Fellowships in Spring

Dissertation Year University Fellowships (DYUF) are usually taken in the spring quarter of the year prior to going on the job market, and the fall and winter quarters of the job market year. To qualify for the spring quarter fellowship, students should ask their advisor to file the <u>Spring Certification of Intent to Enter the Job Market</u> (Form GS5) with the Graduate Program Manager between February 1 and February 15.

Funding for Research-Related Expenses

TGS has available funds for research expenses. The maximum one-time research grant is \$3,000. Full details of the application procedure and links to application forms are on the graduate research grants web page. These awards are made twice a year. The next deadline is March 9.

Funding for Conference Expenses

TGS also has funds available for travel to conferences. There is funding

for two conferences during your time at Northwestern that covers up to a maximum of \$800 for each conference. Full details of the application procedures and links to application forms are on the conference travel grant web page.

A special note. TGS allocates a budget every three months for conference travel. If you are planning conference travel in the period December 1 — February 28, the application portal is now closed. Applications for travel between March 1 and May 31 open on January 23. Apply early!

Funding for Undergraduate Research Assistants

The department has funds to support PhD students in hiring undergraduate research assistants to assist in aspects of their doctoral research such as data collection. Funds for Winter Quarter have already been allocated but look for an announcement in early March about applying for Spring Quarter funding.

Note that the university discourages work with undergraduate students on a volunteer (unpaid) basis. Northwestern has guidelines on undergraduate research participation:

After reviewing the policy, please discuss it with the Director of Finance and Administration, before moving forward. Note that it is generally inappropriate to have an employment relationship (paid or unpaid) with an undergraduate who is also in a class in which you are serving as a teaching assistant.

Additional Work

It is possible for Fellowship holders to supplement their fellowship by working for hourly pay as a research assistant, tutor, grader, proctor or performing other administrative tasks for a maximum of 20 hours per week. The 20 hours a week is the aggregate of all paid work from all sources

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combined. For all but the most minimal assignments (< \$600) a permission to work form must be filed with TGS.

Students funded as TAs or as stipend RAs are already presumed to be working for 20 hours a week, and additional paid work is not allowed.

Read more in a <u>statement on our</u> website.

Next Edition

Volume 31, number 3 will be published on March 2.