# 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 Wednesday December 23 and reopens on the morning of Monday January 4.

#### **Quarter Dates**

The Winter Quarter starts a week later than originally planned. First day of classes is Monday January 11. The remainder of the academic year is currently unchanged, including the dates for the end of Winter Quarter, Spring Break, and Spring Quarter. A reminder that Spring Quarter starts on Tuesday, March 30. But on the first day, classes that normally meet on Mondays are held. The first TTh classes of Spring are on the Thursday.

### Distinguished Teaching Assistants

The Distinguished Teaching Assistant Awards for 2019-20 were presented at the virtual start-of-year welcome event on September 15 The winners of a certificate, a limited edition coffee mug (to be handed out when normal life resumes), and a year's membership to the Econometric Society or the American Economic Association were Riccardo Bianchi Vimercati. Clement Bohr, Alexander Doser, Joao Guerreiro, Joe Long, Yiqi Lou, Jiachen Ma, Utsav Manjeer, Michael Porcellacchia, Jason Premo, Kelly Gail Strada, Francesca Truffa,

### Udayan Vaidya, Ashley Wong and Boli Xu.

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 2019-20 were Eilidh Geddes for "Insurer Competition and Rating Areas on the ACA and **Nicole** Exchanges" Ozminkowski for "Rent Control and Domestic Violence" (joint with Eilidh Geddes). The prizes were generously donated by alumna 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 two fellowships to honor the late faculty member and AEA President Robert Eisner. For 2020-21, the Fellowships are awarded to **Joao Guerreiro** and **Udayan Vaidya**. The fellowship or fellowships are awarded annually to fourth-year

students who have distinguished themself in both teaching and research.

#### Faculty Changes

We welcome **Benjamin Golub** as an associate professor and **Annie Liang** as an assistant professor. Both have joint appointments with the Computer Science department. Golub was at Harvard University. His research is in economic theory with a focus on social and economic networks. Liang was at the University of Pennsylvania. Her research is in the theory of learning and information, and the application of machine learning methods for model building and evaluation.

We say goodbye this month to **Daley Kutzman** who is joining Facebook.

#### Nemmers Prize

The University has announced that the 2020 winner of the Nemmers Prize is Claudia Goldin of Harvard University. She was honored for insights into the history of the American economy, the evolution of gender roles and the interplay of technology, human capital, and labor markets. The biennial honor is bestowed on an outstanding economist who has yet to win the Nobel Prize. It is anticipated that her visit to the Department and any public lecture and conference will be in the 2021-22 academic year.

#### Congratulations

Professors Sara Hernández-Saborit, Daley Kutzman and Jeff Lewis were chosen for the 2019-20 Faculty Honor Roll award organized by the Associated Student Government. Winners were selected based on nominations by undergraduate students.

The Econometric Society elected Matthias Doepke and Alessandro

**Pavan** as Fellows. Also elected was our PhD alum **Francesca Molinari**.

Alessandro Pavan and Bruno Strulovici were named Fellows of the Society for the Advancement of Economic Theory (SAET).

#### Visitors and Postdocs

The pandemic continues to curtail visitors. but we do have two postdocs who are here for the entire academic year: economic historian **Michele Rosenberg** and macroeconomist **John Grigsby**.

The visit by **George-Marios Angeletos** of MIT has been postponed to the 2021-22 academic year. Consequently, the Spring Quarter Econ 415-1 course he would have co-taught is now solely taught by **Alessandro Pavan**.

#### Matlab

Matlab is now available to faculty and students for free. Read the details at:

https://weinberg.northwestern.edu/wits/about/news/fall-2020/matlab-and-simulink.html

#### **For Your Information**

#### Help and Support

We have collated together a listing 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 **Alison Stoute**.

### Graduate Student Opportunities Website

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

Conferences

#### **Graduate Connection • 2**

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

See the weekly update e-mail or visit: <a href="https://sites.google.com/view/nuecongrad-opportunities/home">https://sites.google.com/view/nuecongrad-opportunities/home</a>

#### **Events**

#### AEA Annual Meeting

The annual meetings of the American Economic Association are virtual and run from Sunday to Tuesday January 3-5.

#### Martin L. King Jr. Day

On Monday, January 18, the University is closed, and all classes are canceled in observance of Dr. Martin Luther King Jr. Day.

### **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, between 1 and 3 units of Economics 590 can be used to supplement regular course registrations.

Students in years 4 and above should register for TGS 500 (or TGS 512 in certain circumstances) which is considered a 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 web site for a complete statement. Report any problems to the Director of Graduate Studies.

## This Quarter's Course Descriptions

Due to the rapidly evolving situation, for any class marked as "Potentially Hybrid" consult with the instructor just prior to the start of Winter Quarter regarding any in-person options. For all classes, please consult the syllabus for details on the mix of synchronous versus asynchronous components.

#### 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 412-2**

Economic Theory and Methods Professor Strulovici TTh 3:00-4:50 Potentially Hybrid

The course introduces conceptual frameworks, recent advances, and open research questions in key applied fields for which theory is underdeveloped, including: law and economics, institutional economics, and health economics, and current topics such as privacy, discrimination, and assault allegations and whistleblowing.

The course also aims to develop skills for identifying, formalizing, and analyzing questions in applied fields using mechanism design, information economics, and other modern theoretical methods and concepts.

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

#### **Economics 414-2**

Economics of Information
Professor Dworczak
TTh 5:00-6:50 Potentially Hybrid

This is a theory topics course intended for graduate students who are about to start (or have already started) doing research. The course is a review of recent papers applying theoretical tools (mechanism design, information design, game theory) to important financial market design issues such as the optimal frequency of trade, size and price discovery, preand post-trade transparency, design of financial benchmarks, stress tests, and cryptocurrencies.

The course is suitable both for theory students who had little prior exposure to finance and for theoryminded finance students who would like to expand their toolkit.

Evaluation is based on in-class participation, presentation of a research paper, and a research proposal.

#### **Economics 414-3**

Economics of Information
Professor Guo
TTh 11:00-12:50 Remote

This course covers two major research areas: mechanism design without transfers robust and mechanism design. It reviews a series of recent papers with a focus on analytical tools. Topics covered include delegation, dynamic mechanisms without monev. information design, evidence models, mechanism design under worst-case payoff or worst-case regret. The main objective is to explore the frontier of these topics and to help students find research projects.

#### **Graduate Connection • 3**

Students are required to submit two referee reports and to make a presentation.

#### Economics 416-2

Advanced Macroeconomics Professor Doepke MW 8:00-9:50am

Remote

This class focuses macroeconomic issues and models with a central role for household heterogeneity and household decision-making. It includes life-cycle models and models of household bargaining. Applications include the determination of aggregate labor supply and savings, macroeconomic models of the evolution of inequality and social mobility, issues in "family macroeconomics" such as fertility decisions and models of marriage and divorce, applications to economic growth and development, and political-economy applications to voting and institutional change. An additional focus of the class is on models of endogenous innovation.

Evaluation is by problem sets (including projects focusing on numerical methods and replication), class participation, and by the submission of a research proposal related to the topics discussed in the class.

#### **Economics 420-2**

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

The course is devoted to recent papers in economic history written in the language and tradition of modern economics. Economic theory and econometric methods have been applied to historical issues utilized new and innovative databases. The course surveys a sample of this recent literature, provides a historical context to them, and aims to motivate and stimulate similar research.

After two weeks of introductory lectures, each class is devoted to 2 papers (4 per week). Every other paper is assigned to a student who prepares a "mock referee report" in advance and presents the report to the class.

The course requires a research paper, single-authored or co-authored with at most one other student taking this course concurrently. The paper is due a year after the end of the course. Until then all students get an incomplete grade.

#### **Economics 425-2**

Development Economics Professor Udry MW 2:00-3:50

Remote

The focus is the study of the microeconomics of development. **Topics** include household organization, gender, agriculture, technological change, and finance, risk, and uncertainty. The course emphasizes the interplay between theory, observation, experimentation, and econometric testing, and how these work within and across papers form research programs. A primary goal of this course is a critical reading of the current literature.

Students are expected to do all the required reading and to participate in class discussion. Evaluation is based on a series of assignments (referee reports and presentations) and a research proposal.

#### **Economics 450-2**

Industrial Organization Professor Reguant MW 10:00-11:50

Remote

The course covers several tools in industrial organization, such as dynamic games, multi-unit auctions, pass-through analysis, regulation topics, with a focus on energy and environmental applications. Students are exposed to a variety of IO topics in energy and environmental markets

such as electricity, pollution, water, and automobile regulations. The problem sets deal with implementing dynamic structural model estimation techniques and the regression analysis of regulation models.

Evaluation is by two problem sets and two referee reports.

#### **Economics 460-1**

International Economics
Professors Eichenbaum / Lorenzoni
TTh 1:00-2:50 Remote

The course covers the main tools of open economy macro and some recent developments. In particular, it covers the determinants of financial flows across countries, the effects of monetary and fiscal policy in open economies, international asset pricing puzzles and currency volatility, policy spillovers and coordination, the choice of the exchange rate regime, the determination of price differences across borders and the pass-through of exchange rate shocks, monopoly power and price setting in different currencies, the role of capital controls currency interventions, the propagation of financial crises across borders and the secular determinants of current-account imbalances.

#### **Economics 481-2**

Advanced Econometrics
Professor Auerbach
MW 4:00-5:50 Remote

An introduction to various econometric methods for social and economic networks. Preliminary topics include statistical models of social interaction and network formation, community detection, contagion and shock propagation, and sampling. About two-thirds of the course is focused on theory (i.e. definitions and proving things) while the remaining one-third focuses on computational issues and empirical applications. Some course material may be altered to reflect the interests of enrollees.

#### **Graduate Connection • 4**

Evaluation is by a project proposal that may be theoretical or empirical in nature.

#### **Economics 498-1**

Advanced Topics in Economics
Professor Schnell
MW 12:00-1:50 Remote

This course introduces theoretical models and empirical applications in health economics. Topics include the production and measurement of health, the provision and design of insurance, health causes consequences of provider behavior, and competition in health care markets. The course includes quest by Hannes Schwandt lectures (SESP), Matt Notowidigdo (Univ of Chicago), and Diane Alexander (Wharton).

The course complements Professor Dranove's MECS 551-1 (Fall 2020). Some topics build on work discussed in the Fall, but MECS 551-1 is not a prerequisite.

Evaluation is based on in-class presentations of research papers, a final exam, and an original research proposal or project. (Students who took MECS 551-1 should complete the research project they started in the Fall; students who did not take MECS 551-1 are asked to develop a comprehensive research proposal).

#### **Economics 498-2**

Advanced Topics in Economics
Professor Bhattacharya
TTh 7:00-8:50pm Remote

This course covers recent papers in industrial organization, beyond those covered in the 450 sequence. The emphasis is on critically evaluating recent work and analyzing how they contribute to the literature. Topics are suggested by students and can cover both applied and methodological papers.

Evaluation is based on student presentations and participation. This course is geared towards both

second-year students enrolled in the 450 sequence and to thesis writers in IO.

#### Other Departments' Classes

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

#### Finance 585-2

Asset Pricing II Professor Papanikolaou T 10:00-1:00

Remote

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, and equilibrium in frictionless markets. The second part covers a selection of topics of current interest: asymmetric information models, borrowing constraints and other frictions, models with non-standard preferences, models with production, etc.

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 and Sapienza
M 6:00-9:00pm Remote

This course provides a broad overview of major topics in empirical corporate finance including capital structure and financial contracting, real investment behavior, financial intermediation, financial distress, corporate governance, and law and finance.

The aim is to prepare students to do research in empirical corporate

finance by discussing empirical papers related to the theories formulated in Finance 586-1 and developing identification strategies for testing corporate finance hypothesis.

There is an emphasis on how to develop good research ideas. Rather than providing an exhaustive overview of the field, the course focuses in depth on selected topics to illustrate different empirical approaches to the same or related questions.

Part of the course is devoted to teaching how to use the basic databases in finance. Empirical exercises to learn to extract and manipulate those data are given to the students. At the end of the course, the students will have mastered how to use the most common databases in finance.

#### **MECS 540-2**

Political Economy II: Conflict and Cooperation
Professor Baliga
F 2:00-5:00 Remote

This course offers a theoretical treatment of conflict. Strategic interaction within and across nations involves conflict and cooperation. Disagreement between a country's population and its leadership can cause internal conflict, oppression, and terrorism. Disagreement between countries can lead to war, costly arms and impede races economic development. Conflict often arises though there is some cooperative solution that would have satisfied all the relevant actors. The course studies the fundamental causes of conflict (positive analysis) and possible solutions that create cooperation (normative analysis).

Evaluation is based on in-class presentations of papers or new research ideas that might form part of a dissertation.

#### **Graduate Connection • 5**

#### **MECS 550-3**

conflict.

in Economic Theory and Related Areas Professor Sandroni Th 6:00-9:00pm Potentially Hybrid Notify the instructor if you have a time

Economic Theory III: Doing Research

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. 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 W 3:00-6:00 Remote

The course covers the models and mathematical techniques for discrete continuous-time dynamic optimization under uncertainty, with an applications emphasis on economics. It covers the variational approach, dynamic programming, Bellman equation and the principle of optimality, optimal-control the approach, the HJB equation, stoppingtime problems, multi-armed bandits, and the Gittins' index theorem.

Evaluation is based on several problem sets and a final exam. The main textbook is *Recursive Methods in Economic Dynamics* by Stokey, Lucas, and Prescott (Harvard U.P., 1989).

#### MECS 570-1

Economics of Organizations
Professor Powell
TTh 1:30-3:00 Remote

This course is an introduction to research in organizational economics,

which can be succinctly described as the economics of managed relationships. This course focuses on theories of incentives, adaptation, and firm boundaries, with the aim of understanding how firm practices affect and are affected by the broader economy. The main practical emphasis is on developing applied modeling skills.

Evaluation is by model development essays and in-class presentations of recent papers.

The required text is *The Handbook* of *Organizational Economics*, edited by Robert Gibbons and John Roberts, (Princeton U.P. 2013).

### Formal Announcements

#### Funding Guidelines

The Department has formal rules for the allocation of funding for students in years two through six. These are described on the <u>Graduate > Funding</u> page of our web site. Please read this document as the Department strictly enforces these funding criteria.

#### TA Periods in Residence

Each quarter that you are a TA, you are expected to be available on weekdays starting on the first day of classes and continuing until the Monday after examinations end (the day that grades are filed).

For this Winter Quarter you do not have to be physically present in Chicago, but you must be available on weekdays virtually between Monday January 11 and Monday March 22.

The University has yet to announce whether classes will be in-person, hybrid, or remote in the Spring Quarter (Tues March 30 - Mon June 14).

You should arrange vacations accordingly.

#### Graduate School Deadlines

Deadlines for students wishing to receive a MA or PhD degree in March. January 29: Application for a Degree. February 26: Completed dissertation and all supporting materials for the PhD degree.

**March 12:** Final examination report and any change of grade forms for the MA degree.

#### Students Funded on NSF Grants

The National Science Foundation (NSF) requires all students supported by them to undergo training in the responsible conduct of research. This is accomplished by a one-time registration in ECON 519 that has two components: an online class and a "face-to-face" component. The online part asks the student to complete a 2-3-hour online class administered by a private company that Northwestern has hired. DGS Professor **Marciano Siniscalchi** leads the face-to-face part of the class.

### **Funding Opportunities**

# NU Dissertation Year Fellowships

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 Spring Certification of Intent to Enter the Job Market (Form GS5) with the Graduate Program Manager between February 1 and February 15. This form is available from the Graduate. > Current Student Resources > Frequently Used Forms section of our web site.

#### **Graduate Connection • 6**

#### NU Summer Fellowships

Summer Fellowships are available to students in years one through five. A signed acceptance form and contract is submitted in May. More details in the next *Graduate Connection*.

Sixth year (and above) students should note that The Graduate School specifies that Summer University Fellowships are not available for students beyond year 5.

### Funding for Research-Related Travel and Expenses

TGS has available funds to pay for research expenses and for travel to conferences. The maximum one-time research grant is \$3,000. 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 funding web page.

One of the necessary conditions for obtaining TGS conference support is the commitment of the department to contribute \$200 in matching funds to the expenses if a student's application is successful. The Department contributes \$100 from the Eisner account, and requires that the other \$100 is covered by the student's advisor. Note that currently University-supported travel is restricted.

#### **Notes**

#### Next Graduate Connection

Volume 26, number 3 will be published in the week of March 1.