

ECONOMICS HONORS PROGRAM NOTES

Econ Honors Advisor: Prof. Lixin Ye, Arps Hall Room 449A, Ye.45@osu.edu, 614-292-6883

Email to set up a meeting and Prof. Ye will reply with available meeting times.

You have 3 sets of advising personnel that can help you. Each has a slightly different role:

Arts & Sciences Honors Counselors (<http://aschonors.osu.edu/advising>)

- Help set up the non-major (GEC) portion of the Honors Contract.
- Provide information on graduation requirements, general honors requirements, OSU requirements.
- Provide general degree planning and career advice, and referrals to other campus services.

(Non-Honors) Economics Advisors (Rebecca Baker & Eric Hinkle, Arps 375)

- Give advice on which electives to include in your major or minor.
- Handle adding/dropping Economics courses and other technical issues with Economics courses.

Economics Honors Advisor (currently Prof. Ye)

- Approves the completed major (or minor) portion of your Honors Contract, and revision forms.
- Gives advice on planning for grad school, and involvement in undergraduate research.

Need A Form Signed, But Don't Need to Meet? The best way is to send an electronic version (or scanned copy) of your completed honors contracts and/or revision forms to Prof. Ye at ye.45@osu.edu for him to review & e-sign. If he has questions, Prof. Ye will email you to propose a time to meet. If you only have hard copies of the completed contracts/forms, you may drop them off with the receptionist in Arps 410. The contracts/forms will then be forwarded to Prof. Ye for review.

THIS DOCUMENT IS NOT OFFICIAL!

PLEASE VERIFY ANY PREREQUISITES AND OTHER REQUIREMENTS FROM OFFICIAL SOURCES.

Below are listed the standard requirements for non-honors degrees in economics. Honors students design their own degree and therefore are not bound to those requirements. However, it is generally expected that an honors student will complete those requirements **and more**. An honors contract that meets only the bare minimum degree requirements is unlikely to be accepted. A recommended way to bolster your degree is by adding minors, a second major, or taking additional economics electives, math courses, and statistics courses. Math and statistics are particularly valuable if you are considering graduate school. Recommended math courses are listed in this document.

Elective courses are listed in this document. Available elective courses vary from year to year. Some courses are not offered every year. Courses marked "NOT OFFERED" are unlikely to be offered anytime soon. All other courses list current or recent instructors. "NA" indicates it was not offered in a recent semester. Students should plan on some flexibility in scheduling elective courses.

An Honors Thesis (graduating with research distinction) is recommended for students interested in an analytical or research-focused career, and especially for students interested in graduate school. Some guidelines for doing undergraduate research appear below. Some sample degree plans are also provided in this document.

ECON (NON-HONORS) DEGREE REQUIREMENTS

(An honors degree should *exceed* these requirements.)

A grade of C- or better is required for a course to count toward an honors major.

Econ BA (30 hrs)

Pre-Req: STAT 1450 or 1430 (Data Analysis GEC)

Pre-Req: 2001.xx Micro (.01 .02 .03H) (SocSci GEC)

2002.xx Macro (.01 .02 .03H)

4400 Elementary Metrics (pre. STAT 1450) [prereq: STAT 1450 or 1430]

4001.xx Intermediate Micro (.01 .02:calc .03:advcalc)

4002.xx Intermediate Macro (.01 .02:calc .03:advcalc)

One Econ writing course (in addition to the two GEC writing courses):

2367.01 American Economy 20th Century [prereq: 2001&2&ENG1110]

2367.02 Current Econ Issues in US [prereq: 2001&2&ENG1110]

5130 Econ History of Western Europe (History GEC if double major)

5140 Econ History of USA (History GEC if double major)

*4100 Evolution of Econ Thought

*4508 Comparative Econ Systems

*4960H Honors Seminar in Economics

*these are not standard but could be used

Electives

≥15 hrs (in ≥3 courses) of econ electives at ≥3000 level, excluding 3400 and 4320
with ≥6 of those hrs (in ≥2 courses) at ≥5000 level

(4797, 4998, 4999, 5193 need permission of DUS)

ECON BS (36 hrs)

Pre-Req: MATH 1151 Calculus I

Pre-Req: 2001.xx Micro (.01 .02 .03H) (SocSci GEC)

2002.xx Macro (.01 .02 .03H)

4001.02 or .03 Intermediate Micro w/ Calculus [prereq: MATH 1151]

4002.02 or .03 Intermediate Macro w/ Calculus [prereq: MATH 1151]

STAT 2450 Intro to Statistics

5410 Econometrics I

5420 Econometrics II

One Econ writing course (in addition to the two GEC writing courses):

2367.01 American Economy 20th Century [prereq: 2001&2&ENG1110]

2367.02 Current Econ Issues in US [prereq: 2001&2&ENG1110]

5130 Econ History of Western Europe (History GEC if double major)

5140 Econ History of USA (History GEC if double major)

*4100 Evolution of Econ Thought

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*4960H Honors Seminar in Economics

*these are not standard but could be used

Electives

≥15 hrs (in ≥3 courses) of econ electives at ≥3000 level, excluding 3400 and 4320
with ≥6 of those hrs (in ≥2 courses) at ≥5000 level

(4797, 4998, 4999, 5193 need permission of DUS)

ECONOMICS MINOR (15 hrs)

2001.xx Micro (.01 .02 .03H)

2002.xx Macro (.01 .02 .03H)

Pick one: 4001.xx, 4002.xx, 4400

Two econ courses at 3000-level or higher, excluding 3400 and 4320.

(Courses cannot overlap with your major, but one course can overlap with GECs.)

(Max 6 hours transfer and/or AP credit.)

(5193 Individ Study and 5194 Group Study can only be used once. 4797 Study Abroad needs DUS.)

MATH & STAT REPLACEMENT

STAT 4201 + STAT 4202 can replace STAT 2450 + ECON 5410 in the Econ BS requirements.

Caveat: You cannot double-count classes between a major and a minor (or between two majors if you are dual-degree). If STAT 4201+4202 (or MATH 4530) are counting as part of a minor (or another major in a dual-degree), then they can't appear on your Econ major page of your honors contract. You still don't need to take STAT 2450 + ECON 5410, but now your BS degree will not add up to 36 credit hours. In that case, you need to fill the hole in your Econ major enough Econ courses to get back up to 36 hrs.

(Note: STAT 4201 requires MATH 2153 or 2182H: Calc III/Multivariate Calc.)

(MATH 4530 or MATH 5530H could be used instead of STAT 4201)

COLLEGE RULES ON MAJORS, MINORS, & DOUBLE-COUNTING:

- Any major must contain at least 30 hours, all at the 2000+ level. (BS should really have 36 hours.)
- Single majors cannot double-count with GE, except Data Analysis, Social Diversity, & Int'l Issues.
- Classes can never overlap between a major and a minor.
- Courses can overlap between 2 minors, but each minor must have at least 12 unique hours.
- Any minor must have at least 12 total hours. (The Econ requirement is 15 hours.)
- Classes can overlap between 2 majors (if single-degree), but ≥ 18 hrs must be unique to Economics
- Classes cannot overlap between 2 different degrees (dual-degree, giving 2 diplomas).
- Honors students can take graduate courses for credit. This may require a petition form.
- The college allows 6 hours to overlap between minors and GECs, but ECON imposes a max of 3 hours.

TRANSFER & AP CREDIT:

At least $\frac{1}{2}$ of all major credit hours must be taken at OSU. See your honors counselor for more information on transfer and AP credit.

JOINING THE HONORS COLLEGE:

Non-honors students can apply to the honors college after at least 1 semester at OSU if they have a cumulative GPA of ≥ 3.5 . See the honors counselors for more information.

ELECTIVE COURSES

<u>NUM</u>	<u>TITLE</u>	<u>RECENT TEACHERS</u>	<u>PRE-REQS</u>
Current Economic Research			
4960H	Honors Seminar in Economics	Weinberg	4001&2
Economic History			
4100	Evolution of Econ Thought	NOT OFFERED	2001&2
4130	World Econ Development: History	Doetsch, Cooper/Baack	2001or2 (not5130)
4140	Econ History of Americas	Steckel/Baack	2001or2 (not5140)
5130	Econ History of Western Europe	Logan	4001&2,4400or5410
5140	Econ History of USA	Steckel	4001&2,4400or5410
Money & Banking			
4200/H	Money & Banking	Evans,Students,Mirzaie(H)	2001&2
5250	National & Int'l Money Mkts	NOT OFFERED	4001&2,4400or5410
Government Finance			
4300	Govt Finance in American Economy	Gill, TAs, Nesbit	2001
4310	Local Public Finance	Nesbit	4300
4320	Public Expenditures Cost-Benefit Anlys	Gill	2001
International Economics			
4500	Econ Development	Osman	2001&2
4537	Middle Eastern Econ Development	Mirzaie	2001&2
4547	Econ of War	Gill	2001&2
4560/H	Cooperation & Conflict in Global	Osman	2001&2
4600	International Econ. Relations	NOT OFFERED	2001&2(not5650/60)
5650	Int'l Commodity Flows	Mirzaie	4002,4400or5410
5660	Financial Aspects of Trade	Mirzaie	4002,4400or5410
Structure & Regulation of Industry (IO)			
4700	Gov't and Business	Donna/Snow,TAs	2001 (not5700)
5700	Industrial Organization	Donna	4001,4400or5410
5720	Compar. Institutional Anlys Firms Mkts	NOT OFFERED	4001
Labor Economics			
3790	Econ of Crime	Gill	2001
4800	Labor and Industrial Relations	Doetsch, TAs	2001 (not5850)
4830	Econ of Sports	Nesbit, TAs	2001
5850	Labor Economics	Daeho Kim	4001
Social Economics			
3048	Ethics & Social Responsibility	NOT OFFERED	2001or2
3820	Economics of Gender in Labor Mkts	Molly Cooper	2001
3850	Diversity in Econ	NOT OFFERED	2001
4553	Econ of Population	Logan	2001or2
4920	Housing Economics	NOT OFFERED	2001
4597.01	Underground Economy	Bellner,Snow	2001&2&Junior
Game Theory & Decision Theory			
4050	Experimental Economics	Baldiga/Coffman	2001&2
5001	Game Theory	Saeedi/Peck	4001&MATH1131+
Comparative Economic Systems			
4508	Comparative Econ Systems	NOT OFFERED	2001&2 (not5150)
5150	Econ Transitions in 20 th Century	NOT OFFERED	4001&2,4400or5410

(NOTE: ECON 3400 generally will **not** count as an acceptable elective.)

COURSE RECOMMENDATIONS FROM PAST STUDENTS

5001 Game Theory
5140 Econ History of USA (Econ writing course; Dr. Logan)
4200H Money & Banking
4500 Econ Development (Osman)
4830 Econ of Sports
5700 Industrial Organization

If you're interested in judgment and decision-making, PSYCH 4508 could be used as an elective for your major, with approval from the honors director. This course would complement 5001 Game Theory and 4050 Experimental Economics.

INDEPENDENT STUDY & HONORS THESIS COURSES

All have variable credit hours. Default is 1; adjust when signing up. Make sure instructor knows.

2194 Group Studies [was 294]
2001.0x. Max 7 hrs/2 times.

4191 Internship
Counts as 4000-level elective. 2001.0x, 2002.0x, Junior+ standing, permission of dept.
Repeat 6hr/2times

4797 Study Abroad [was 697]
Department chair permission. Repeat max 30 hrs or 30 times.

4998 Undergraduate Research (non-thesis). [was 699]
Pre-req: 4001.0x, 4002.0x, and permission

4998H Honors Research (non-thesis).
Same pre-reqs, plus honors standing. Not open if taken 4998.

4999 Undergraduate Thesis Research. [was 783H]
Take twice for thesis requirement. Senior standing, half of Econ courses, and permission. Repeat max 10 hrs or 10 times.

4999H Honors Thesis Research
Take twice for thesis requirement. Honors standing. A in half of Econ courses, B average in others.
Senior standing. Permission. Not open if 4999. Repeat max 10 hrs or 10 times.

5193 Independent Study
A readings course.
Junior standing or higher. Avg of B in Econ courses and CPHR of 3.0+. Repeat max 10hr/10times.

5194 Group Study
4001.0x. Repeat 10hr/10times

HONORS MATH MINOR:

Pre-Requisites (don't count toward minor):

MATH 1151: Calc I	5 hrs	Also needed for BS degree
MATH 1152: Calc II	5 hrs	

Required minor courses:

MATH 2153 or 2182H: Calc III Multivariate	4 hrs	Prereq 1152/1181H
MATH 2568 or 5520H: Linear Algebra	3 hrs	Prereq 2153/2182H
MATH 3345 or 4181H: Fndtns of Higher Math	3 hrs	Prereq 2153/2182H

Recommended elective minor courses (8 hrs needed):

MATH 4547: Intro Analysis I	3 hrs	Prereq 3345. Basically required for Econ PhD.
MATH 4548: Intro Analysis II	3 hrs	Prereq 4547. Highly recommended for PhD
MATH 4573: Elementary Number Theory	3 hrs	Prereq 3345. Recommended.
MATH 4530: Probability	3 hrs	Prereq 2153. Subs for STAT 4201
MATH 4578: Discrete Math	4 hrs	Prereq 2568 & 4530/STAT4201
MATH 4580: Abstract Algebra I	3 hrs	Prereq 3345 & 2568.
MATH 4581: Abstract Algebra II	3 hrs	Prereq 4580
MATH 4575: Combinatorial Math	3 hrs	Prereq 2568. Recommended.
MATH 2255: Differential Equations & Applcns	3 hrs	Prereq 2153/2182H
MATH 2415: ODE/PDE	3 hrs	Prereq 2153/2182H (not2255)
MATH 5001: Intro to Set Theory	3 hrs	Prereq 4547 (Analysis I). Recommended.

STATISTICS MINOR:

Required minor courses:

STAT 4201: Intro to Math Stats I	4 hrs	Prereq MATH 2153
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(Can replace 4201 with MATH 4530 plus 4 hrs of STAT electives)

STAT 4202: Intro to Math Stats II	4 hrs	
STAT 5301: Intermediate Data Analysis I	4 hrs	
STAT 5302: Intermediate Data Analysis II	3 hrs	

Recommended elective minor courses (none needed unless MATH 4530 replaces STAT 4201)

STAT 5510: Survey Research	3 hrs	Prereq 5301
STAT 5740: Intro to SAS	2 hrs	Prereq 5302
STAT 6610: Applied Nonparametrics	3 hrs	Prereq 5301
STAT 6650: Discrete Data Analysis	2 hrs	Prereq 5302
STAT 6615: Design of Clinical Trials	2 hrs	Prereq 5301
STAT 5550: Time Series Analysis	3 hrs	Prereq 4202 & 5302

SAMPLE HONORS ECON BS DEGREE WITH AN HONORS MATH MINOR (21 Courses)

Note: Because MATH 4530 counts as a math minor course, a 6th Econ elective is needed to replace it in the Econ major. Here, STAT 4202 would be listed on the Econ major page, since it's not counting toward a minor.

SEMESTER 1

ECON 2001.03H: Principles of Micro
MATH 1151 Calc I

SEMESTER 2

ECON 2002.03H: Principles of Macro
MATH 1152 Calc II

SEMESTER 3

ECON 4001.03 Intermediate Micro w/ Calculus
MATH 2153 Calc III

SEMESTER 4

ECON 4002.03 Intermediate Macro w/ Calculus
MATH 4530: Probability (replaces STAT 2450)
MATH 2568: Linear Algebra

SEMESTER 5

STAT 4202: Intro to Math Stats II (replaces ECON 5410)
ECON Writing Course (2367.01, 2367.02, 5130, 5140, 4960H)
ECON Elective 1

SEMESTER 6

ECON 5420: Applied Econ Models & Forecasting
MATH 3345: Foundations of Higher Math
ECON Elective 2

SEMESTER 7

MATH 4547: Intro Analysis I
ECON Elective 3
ECON Elective 4 (5000-level)

SEMESTER 8

MATH 4548: Intro Analysis II
ECON Elective 5 (5000-level)
ECON Elective 6

SAMPLE HONORS ECON BS DEGREE WITH AN HONORS MATH MINOR AND A STAT MINOR (25 Courses)

Note: Because STAT 4201+4202 count as Stat minor courses, a 6th and 7th Econ elective are needed to replace them in the Econ major.

SEMESTER 1

ECON 2001.03H: Principles of Micro
MATH 1151 Calc I

SEMESTER 2

ECON 2002.03H: Principles of Macro
MATH 1152 Calc II

SEMESTER 3

ECON 4001.03 Intermediate Micro w/ Calculus
MATH 2153 Calc III

SEMESTER 4

ECON 4002.03 Intermediate Macro w/ Calculus
STAT 4201: Intro to Math Stats I (replaces STAT 2450)
MATH 2568: Linear Algebra
ECON Elective 1

SEMESTER 5

STAT 4202: Intro to Math Stats II (replaces ECON 5410)
ECON Writing Course (2367.01, 2367.02, 5130, 5140, 4960H)
ECON Elective 2

SEMESTER 6

ECON 5420 Applied Econ Models & Forecasting
MATH 3345: Foundations of Higher Math
STAT 5301: Intermediate Data Analysis I
ECON Elective 3

SEMESTER 7

MATH 4547: Intro Analysis I
ECON Elective 4
ECON Elective 5
STAT 5302: Intermediate Data Analysis II

SEMESTER 8

MATH 4548: Intro Analysis II
ECON Elective 6 (5000-level)
ECON Elective 7 (5000-level)
MATH Elective

UNDERGRADUATE RESEARCH

You can either do research as part of a one-time independent study, or you can do a larger undergraduate thesis project and graduate with research distinction.

In either case you need to convince an economics faculty member to advise you on your research project. The economics honors advisor can recommend potential faculty advisors. Unfortunately, faculty members are busy and do not receive any special credit or pay for advising theses, so they may decline such requests. It is good to already have a research idea in mind before contacting potential faculty advisors. Here is a suggested plan:

1. Identify a topic that interests you. Try to focus on things you've learned in class, rather than newspaper articles. Good research is about general principles rather than specific case studies. For example, studying airline prices is only interesting if it can teach us something general about how firms set prices or how customers react to price changes.
2. Search for academic papers on your topic. Use Google Scholar, JSTOR, and other sources to find related papers. You may need to be on a University computer to access published papers.
3. Write a short summary of the previous work you've found on the topic, summarizing what is known.
4. Write your research question and how you plan to attack it. For example, what data will you need?
5. Identify a faculty member in OSU's Economics Department who works on related topics. Faculty research is usually found on their own websites, linked from the Econ Department website.
6. Set up a meeting with the faculty member you identify. Take your literature review and research proposal to them and see if they would be interested in advising you on how to proceed from there. Let them know whether you plan on doing a 1-semester independent study or a full honors thesis.

Independent Study (ECON 4998H)

This is a one-semester class where the faculty member advises you on the project and gives you a grade. Each faculty has their own course number; make sure you sign up for the right one. Consult with the faculty member for the appropriate number of credit hours. Can be repeated for credit.

Honors Thesis (ECON 4999H)

Students must contact a tenure-track faculty member to serve as their thesis advisor, and will then enroll in at least 4 credit hours of 4999H during their senior year under that faculty member. (Research done before your senior year will have to be done as independent studies.) This must be declared at least 2 semesters before graduation. The final thesis project must be presented to a committee of 3 faculty members—your research advisor, one other economics faculty member, and one faculty member from another Arts & Sciences department. This is a one-hour presentation. You graduate with research distinction.

No-Credit Research Experiences

You can obviously work with a professor on research without getting credit for it, as long as they agree to it.

Undergraduate Research Assistant

Professors sometimes use undergraduates to assist with their own research. This is usually an unpaid job and the work may be somewhat tedious. But it does give you an inside look at "real" Economics research, and, if you do a good job, a good letter of recommendation for graduate school. For larger time commitments the professor may be willing to pay you, but you should not expect this. These opportunities may be hard to find.

Scholarships: See <http://aschonors.osu.edu/opportunities/scholarships/undergrad> for opportunities.

CAREERS IN ECONOMICS

Economics majors get a wide range of jobs. Many work for banks and insurance companies. Others work for corporations outside the financial sector, like Limited Brands. Still others work in government-related jobs, either here in Columbus, or in Washington. In general, Economics majors are sought after because of their strong analytical skills—especially the data analysis skills learned in ECON 5410/5420. This is something you should sell to potential employers when pursuing a job. Also, students who get summer internships are generally more likely to get more desirable full-time jobs after graduation.

Since the honors advisors are professors, they are not the most informed about careers outside of academia. For better information, consult the Arts & Sciences career services center (<http://asccareerservices.osu.edu>). They offer advice and help connect students with employers through job fairs and other functions.

ECONOMICS GRADUATE SCHOOL

An Economics PhD is not for everyone. It is very rigorous and math intensive, usually taking 5 or 6 years to complete. Most PhD programs have qualifier exams after the first year to “weed out” those who are not successful. The last 3-4 years are then spent developing your own research portfolio. Those students that are very successful at creating independent research have a shot at an academic job in a research-oriented university like OSU. Other PhD students land jobs at liberal arts colleges, consulting firms, or government agencies like the FTC. Highly-ranked schools only train their students to become research professors; you should not enter a high-quality PhD program if your career goal is in the private sector, like consulting. If you are interested in becoming a research-active professor, you should try to get in a top-10 to top-20 PhD program; PhD students from lower-ranked schools are less likely to get academic jobs at research universities. If your goal is to be a teaching professor (not research-active), you can generally succeed at lower-ranked schools.

To get admitted to a top-ranked Econ PhD program (Harvard, Stanford, etc.), you should have all of the following, ranked roughly in order of importance:

1. Some research experience as an undergraduate, mentored by (or co-authored with) an Econ faculty member. This should be in the form of at least one completed research paper that can be included in your application packet. Research takes a long time, so find a mentor as early as possible.
2. Math. At least up to Real Analysis I, if not more. Focus on taking proof-based courses as much as possible. Take more advanced statistics courses like 4201/4202. Maybe differential equations.
3. A strong letter of recommendation from at least one research-active Econ faculty member (someone who has published research in good journals within the past few years). Getting a good grade in their class is not enough; they need to be able to talk about your potential as a researcher. Search professors’ websites to see what kind of research they’re producing.
4. A near-perfect score on the GRE Quantitative section and a strong score on the GRE Verbal section.
5. A strong GPA. There’s no set cutoff, but top schools are going to want near-perfect grades, especially in your Econ and Math courses. But taking easy courses just to bolster your GPA is a bad idea.
6. Taking PhD courses as an undergraduate, especially the first-year micro sequence (very difficult!)
7. Computer skills that complement research. Learn LaTeX and a statistical program like R or Stata. Those interested in experiments should learn how to program them (using zTree, or PHP/Perl).

The good news is that motivated undergraduates at OSU can and do get admitted to top schools in Econ.