

A Guide for UCSB Undergraduates Considering a PhD in Economics

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An economics PhD can be the portal to a satisfying and rewarding career. In this Guide we tell you a little bit about getting into grad school and what steps will best prepare you here at UCSB. We'll talk a little about why you might want a PhD in economics, a little about what graduate school is like, and more than a little about how to get into a good graduate school. And we'll offer up the *de rigeur* Frequently Asked Questions. First though, the dime tour.

Cutting to the chase—What do you need to get accepted to an economics PhD program?

1. A good score on the quantitative reasoning section of the GRE. That's means a 165 or *higher* for the most competitive programs. If you score below 160 after studying for the test, reconsider whether you want should be aiming for an econ PhD. The math on the GRE isn't very hard, but a review of the material on the test (maybe of stuff you did in middle school) can definitely boost your score.
2. A high GPA, especially in economics and mathematics. Solid training in math (specifically Math 117 "Methods of Analysis," plus pre-requisites.)
3. Excellent letters of recommendation from economics faculty members who really know your work. Preferably, letters should come from faculty who have supervised research projects. Take seminar classes. Write term papers. Consider honors contracts. If you can join a faculty research project, do so. Finally, consider spending two years as a research assistant before grad school (see below.)

Here are a few facts about admitted students from selected schools circa 2018. (UCSB is included for comparison. In general, it's best to attend a graduate program at a different university from the place you earn your undergraduate degree.)

	UC Santa Barbara	UC Berkeley	Harvard	Wisconsin
NRC Ranking	Top half	Top 10	Top 5	Top 20
Quant GRE	167 (average)	163 (or higher)	169	167
GPA	3.84	3.8		3.79
Admit/Apply	61/308	60-70/800	40/600+	90-150/500+
% entering class offered financial aid	all	Over 50%	100%	Some first year, all making satisfactory progress after first year

How do I know if I'm cut out for an economics PhD?

- I love intellectual pursuits and being a student.
- The idea of making discoveries is incredibly exciting.
- I enjoy math and I'm good at it.
- The formal models in my econ courses are the best part.
- Studying 70-90 hours a week is fine by me.

What are the rewards of an econ PhD?

The reason to do an econ PhD is that you enjoy learning economics. Really...because if you can earn a PhD in economics you can almost certainly make more money in another career. Having said that, economics pays well compared to other academic doctorates and most everyone with a PhD gets a PhD-level job. In 2018-19, average academic starting salaries were \$170,000 at the top 30 PhD granting departments and \$92,000 at bachelor and master degree granting departments. (Nonacademic salaries are typically higher.) Unemployment among PhD economists is close to zero.

Economics PhDs do four kinds of work:

1. Conduct academic research to advance our understanding of how the economy works. Pretty much everything you've learned in your economics classes was figured out by someone with an econ PhD.
2. Teach economics in college. Most economists who conduct academic research also teach, although there are some research organizations not affiliated with a university. But many econ PhDs teach college level courses while conducting very little research. Past the community college level, a PhD is usually a required credential for a faculty position.
3. Conduct applied research. Economists participate in everything from environmental impact statements to discrimination suits. Economists advise governments on tax and regulation policy at all levels.
4. Help run the world. Central banks are mostly run by PhD economists. Some econ PhD's end up as prime ministers or finance ministers of a country (although not in the United States). Most economic policy in both the public and private sectors has an econ PhD behind the scenes.

The two following observations may surprise you: PhD training is focused almost entirely on the first category, training academic researchers; most PhD economists end up in categories 2 and 3. Graduate school is focused on learning how to do research even though that ends up only being a small part of the job for many economists. Whatever your career goal, you have to work toward creating scientific research in graduate school.

Which is the best graduate program for me?

For the most part, you want to go to the best graduate program you can get into. If you are very sure that you're interested in a particular subfield, then you might want to lean toward a program that's strong in a given area. In some cases you may want to consider funding (see below), but remember that income in graduate school is a very small fraction of lifetime income.

Economics programs are unusually hierarchical, especially in regard to training economists to do academic research. Much of the advice you will receive is oriented toward the top 10-30 programs, which have extremely competitive admissions. If you are really, really sure that your goals lie elsewhere, then the standard advice may not fit. However, note that of the 18 full professors at UCSB (circa 2018), 14 received their PhDs from a top 20 program (depending on which schools one counts as being in the top 20.)

FAQ

- What's the highest return/lowest cost activity to get me into graduate school?
 - Get to know the UCSB faculty early in your college career. Advice on what courses to take, on research opportunities, and on what schools are looking for is most valuable when it comes early enough for you to change course!
- How important is the Quantitative GRE?
 - In a way, it's the single most important element. A score below 160 is likely to get you screened *out* at top programs. (At some programs the cutoff is higher.) If your score is below the cutoff the admissions committee may not even look at your application. At the top programs, think of a great quant GRE score as being necessary, but not sufficient. Almost everyone who gets in has a 165 or above and most are higher. If you're below that level, something else about the application had better really shine.
- How do I choose which programs to apply to?
 - There are about 150 PhD programs in the United States, plus a handful of competitive programs in other countries. The AEA maintains a list at <http://www.aeaweb.org/gradstudents/Schools.php>. Visit department web sites both to see what admissions criteria are and to see what fields the department specializes in. For the latter, see what areas faculty are publishing in.
 - When you've started to cull down a list, run it past one or two faculty who you're on good terms with.
- What's the best way to find out if I want to do an econ PhD and to show programs that I'm well suited?
 - Take the hardest economic theory courses offered at UCSB. Sometimes undergraduates take part of the first year PhD sequence at UCSB, particularly 210A

(Check with econ undergraduate advising about this.) If you like 210A and get an A, this is a strong mutual signal for you and prospective programs.

- How much does it cost to get a PhD?
 - The answer can be anywhere from nothing to a lot. The top programs at private universities fully support all or almost all their students. This means that tuition is paid for and that students receive \$27,000~\$40,000 a year in return for some modest teaching duties during part of the program. Lower ranked programs and programs in public universities are generally less well-endowed. Stipends are often closer to \$15,000~\$21,000/year and may require more significant teaching duties. Not all admitted students receive funding offers, particularly for the first year. With the exception of the small number of schools that fully fund all students, support is offered as a competitive tool to attract the best students. However, financial offers often vary more according to department resources than according to student ability. Offers outside of the very top programs do include a calculation about how likely you are to accept.

Note that this is very different than going to graduate school to get an MBA or a law degree. In economics PhD programs your tuition is usually covered and usually you receive some compensation wither for working or in the form of a fellowship.
- What's the deal about being a research assistant between BA and grad school, a position called a "pre-doc?"
 - An excellent guide to pre-doc positions is offered at <https://raguide.github.io/>.
 - <https://predoc.org/> both gives information about pre-docs and links to a number of the universities and institutions offering positions.
 - In what is a change from past practice, there are now quite a few opportunities for students to follow their BA with a research assistant position specifically aimed at those who are intending to follow-up by going on to a doctoral program—hence "pre-docs."
 - Working as a research assistant for a PhD economist engaged in academic research can be an invaluable experience. The perfect example is becoming a research assistant for two years at a Federal Reserve bank or JPAL/IPA. There are similar positions available at a small number of think tanks and research oriented international development agencies. Some university faculty also hire recent graduates. Being part of an academic research team can help you discover if this is the career you want. And it provides an opportunity for a really meaningful letter of recommendation. Even if you discover research economics is not for you, these jobs are a fine start to a career. (The pay is generally okay as well.) Two caveats: These positions are very competitive and usually require at least some computer/statistical skills.

- You may end up applying to 20 pre-doc positions to land one.
- Most positions want you to be reasonably good at R and/or Stata.
- One recent Gaucho who successfully landed a really good pre-doc writes,

“if they like your qualifications they send you a data task. If they are satisfied with your performance on the data task they will conduct a few interviews in which they will probably test your econometrics and/or quiz you on a paper they asked you to read earlier (empirical strategy portion usually)”
- <http://www.nber.org/jobs/nonnberjobs.html> is a good place to look for openings.
- Another good place to look is https://twitter.com/econ_ra.
- Be careful that a research assistant position includes a good deal of interaction with the economist you are working for. You need a real connection to get a good letter of recommendation. Some research assistant positions at large organizations give you good experience, but not the connection to a faculty member that you need to get a helpful letter. You may want to talk to current RAs.
- Here is a link to one organization’s advice for prospective research assistants, <https://www.povertyactionlab.org/sites/default/files/documents/Advice-for-Landing-an-RA-ship.pdf>.
- What does academic research in economics look like?
 - Go to the library and read through the most recent number of the *American Economic Review*. That’s what it looks like. (You will probably find you can’t read most of the articles. Don’t worry. You’ll learn to understand the material in the first couple of years in a PhD program. For more readable articles, look at the *Journal of Economic Perspectives*.)
 - You might also attend a few of the research seminars presented in the department. (You probably won’t understand most of the presentation. Don’t worry here either.) Check with a professor about what would be a good presentation to attend.
- How long does a PhD program take?
 - About half the time five years. About half the time six.
- What’s the basic outline of the PhD program?
 - The first year is course work in microeconomics, macroeconomics, and econometrics. (In some places, one other course is also taken.) The first year is about learning to build models, which means doing a lot of math. The second year is mostly courses in various economic subfields, sometimes spilling over into the third year. The remaining time is spent writing a dissertation.
- I’m really good at economic intuition but not so good at math, although I can handle basic calculus. What kind of PhD program should I look at?

- Look for a program in a different field. (Sorry, but you have to be comfortable with math to do an econ PhD.) For some people, a public policy PhD is a good alternative.
- What UCSB math courses should I consider?
 - Take Math 2AB or 3AB (calculus), 4AB (linear algebra and differential equations), and probably 6AB (vector calculus). (Do not substitute Math 34.) To be competitive at any of the top 30 or so schools, you need Math 117 (Methods of Analysis). Math 118A (Introduction to Real Analysis) will also be valuable in graduate school. But Math 118 is reputed to be a very hard course. If you take it be sure you commit enough time to get an A.
 - You can get a nice peek at the basic math used in graduate programs from YouTube videos of the University of Arizona math camp, created by Professor Mark Walker, <https://www.youtube.com/channel/UCnm29LekIN7kcvHAZ0Fm42g>. The details will differ from one program to the next, and different programs expect different levels of math background (some more than you'll see here and some less), but this should at least give you an idea.
- Besides math and economics, are there other courses I should take?
 - Consider more mathematical statistics (PStat 120A-C, 160A-B, 174). Learning a little computer programming—most any language will do—is also useful. Consider CMPSC 8.
- How does a master's degree fit into a plan to get a PhD?
 - For the most part, it doesn't (for students with an American bachelor's). Many top programs do not accept applicants for a master's. Some programs give a master's degree as an incidental benefit of the PhD program. (A master's degree is also given as a consolation prize for those who don't make it all the way through to the PhD.) Unlike in many other fields, in economics master's programs are typically separate from PhD programs. The one time that a master's makes sense on the way to a PhD is to make up for academic deficiencies in your undergraduate work. (But some pre-doc experiences also allow you to take a few courses while being a research assistant.) Sometimes a master's program is a way to stall applying while picking up more math courses. UCSB offers all the preparation you need for graduate school, but if you're already a senior before you start planning for a PhD you might consider a master's. Note that this probably means adding two years to your overall graduate career, and be sure to look for a master's that prepares students for PhD programs as distinct from programs offering professional training. To be blunt: check out which PhD programs a master's program has sent students to recently. Does the typical graduate get the kind of placement you're looking for?
- How do letters of recommendation work and how important are they?

- A really useful letter of recommendation compares you to other students who have gone to grad school...sometimes by name. And the letter has to back it up with evidence. So the best letter is from a faculty member from whom you have taken advanced classes *and* participated in a research project of some sort. A letter that simply states you are an excellent student who got a good grade in class won't really do any good. Letters pretty much have to be from an economist. Letters from employers (unless they are PhD economists) are irrelevant, as are letters from faculty in other academic fields. (Letters from mathematicians or statisticians might count if they are very specific.) Really thoughtful letters are quite important at the top programs.
- You want very positive letters. Few faculty will actually decline to write a letter, so you want to make it as easy as possible for the faculty member to say no.
- A helpful part of a conversation with faculty can be to begin with a list of places you are thinking of applying to. First off, you'll get good advice. Second, if your idea of where you're going and the faculty member's idea are too far apart...either rethink where you're going or rethink who should write your letter of recommendation.
- Provide faculty with a packet of information that gives them ammunition to write a strong letter. Items to include (they can all be unofficial) are transcript, cv, any papers you wrote for the faculty member, and the list of schools at which you are applying.
- You generally need three letters. While some programs accept an additional letter, it is rarely valuable.
- Most letters are submitted online. Be sure to fill out all the information about your letter writers on the online system so the faculty member doesn't have to.
- Faculty are usually fine with sending off as many letters as you need.
- Should I waive my right to see my letters?
 - Yes. Period.
 - Admissions committees will likely discount any letter that you have seen. Faculty may well decline to write a letter unless you waive access. Worse, they may write a bland, generic letter that sounds positive but which will do you no good whatsoever.
- How important are the verbal and writing parts of the GRE?
 - Not very important—so long as you don't completely bomb them. On the other hand, the top programs are so competitive that everything counts some. If your first language isn't English, these parts of the GRE are even less important although you don't want to blow them entirely. One caveat: Schools which support graduate students with teaching assistantships may care some. And schools do have TOEFL minimums.
- How important is that statement of purpose in the application.

- Not so much. It's important to sound intelligent, but probably no one will read the statement until after a first screening. In economics, the statement of purpose is mostly an opportunity to "do no harm." (A good way to judge getting-into-graduate-school advice is by the emphasis on the personal statement. Advice emphasizing the importance of the SOP is probably bad advice on other topics too. In other disciplines the SOP is very important. It ain't in economics.) The SOP should be well-written and straightforward. If there's a credible reason you're interested in this particular school, it's fine to say so. Mentioning relevant research experience is fine. In general, don't go overboard. A few programs do pay attention to the SOP, so try to do a good job.
- Do schools interview candidates
 - For the most part, no. A few schools do interview some candidates. Usually the interviews are fairly easy-going. You may be asked about why you are interested in a particular school. Sometimes you are asked about specific courses, partially as to help the committee better understand your background in economics and mathematics. And sometimes the real purpose of the interview is to check your English language ability.
- Do I need to publish an article before going to grad school?
- ➤ No.
- I have excellent work experience. How does that factor into the admissions decision?
 - Work experience in the real world won't be held against you, at least not much.
- I'm a member of an under-represented minority group (Black, Hispanic, Native American). How does that affect my application?
 - Mostly, it doesn't. But schools are likely to look a little more carefully at your application. Since there's a lot of randomness in admissions, if you have a good profile that's can be a small advantage.
 - Some universities may have fellowships for supporting admitted minority students. Generally the department you apply to will take care of this.
 - There are two pre-graduate school programs you should check out. The American Economic Association has been running a highly thought of summer training program for decades. See <https://www.aeaweb.org/about-aea/committees/aeasp>. Summer opportunities are also available through the [Leadership Alliance](#). There is also a relatively new program at [Columbia University](#).
- How about being a research assistant?
 - The one kind of experience that can be a plus for getting into grad school is working as a research assistant for a PhD economist engaged in academic research. (See above.)
- Personal accomplishments: hobbies, interests, etc.?

- Basically, no. Economists aren't supposed to have a life anyhow. (I exaggerate a bit here, but most economists are pretty obsessed with economics.) If you've done something world class, say you're an international grandmaster at chess or a member of the Olympic team, that's worth a mention. Research you've done which has been published, even outside economics, is also worth a mention.
- Does it matter if I'm not an American?
 - Citizenship is generally irrelevant for admission. It may matter a little for financial aid. At public schools tuition rates may differ for non-Americans. Note that at the top programs the majority of students may be non-Americans.
- How many programs should I apply to?
 - Somewhere between 10 and 20. Maybe more if you have special constraints. It depends some on how clear your record is and how risk averse you are.
 - Plan on spending a fair amount of time and maybe \$1,500 applying.
- When do I send in applications?
 - Applications go in during the Fall. (Some lower ranked programs may have later dates.)
 - The earliest deadlines are may be in November, but most are in early December through the beginning of January.
 - Sometimes the deadlines really matter. Sometimes they don't.
 - Schools understand that letters of recommendation may not get in by the deadline, but it's better if they do.
 - Some schools require you to send in a copy of Fall term grades. That's optional at other schools. And some schools will not accept Fall term grades. (This last can be an issue if you are finishing up the expected math courses during your last Fall term.)
- What's known about the number of applications and acceptances for PhD programs?
 - Here is some data for the 2019-2020 application cycle (71 institutions reporting, source *AEA Papers and Proceedings*, May 2020).

Applications	Offers of admission	Acceptances	Enrolled
19,039	3,266	1,070	1,020

- How much do academic economists earn?
 - Here is some data for the 2019-2020 average academic year salaries, rounded to the nearest \$1,000 (source *AEA Papers and Proceedings*, May 2020).

	Professor	Associate Professor	Assistant Professor
PhD Institutions	215,000	153,000	132,000
MA Institutions	130,000	107,000	97,000
BA Institutions	125,000	100,000	88,000

Got some video guides to aspects of the life of an economist?

Take a look at <https://www.aeaweb.org/about-aea/committees/cswep/programs/resources/webinars>. The discussions there are mostly oriented toward graduate students and active economists- rather than applicants. They should help give you an idea of what the next stages of your life will be like.

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