

# So you think you can do ... a Ph.D. in Economics, Agricultural and Resource Economics, Environmental Economics, Political Science or Quantitative Social Sciences

Advice from Jason Wong (ENSP-ECON '13, Columbia University '18)  
Last updated: 9/12/2020

Greetings, my ambitious friend! I am thrilled that you are thinking about going for the Ph.D. in the above fields and eyeing a career in academics, research or consulting. I recently went through the process and I thought I should share a few words of wisdom – things I wish I knew and did before embarking upon the doctoral journey. Let me fire away!

## 1. Coursework

There is simply no substitute to taking a lot of quantitative coursework. Try not to cram everything in a few semesters but spread them out strategically. I myself regret not taking the full set of the following courses and had a hard time at the beginning of my Ph.D. program. I urge you to take all the courses I suggest in the following list – they are what I wish I took had I known what was coming...

Achieve a B+ or better in the following courses, in addition to or in combination with your major requirements:

Game Theory  
Advanced Econometrics  
Economics Research Seminar

Calculus 2  
Multivariable Calculus  
Linear Algebra  
Discrete Math  
Real Analysis  
Probability Theory  
Mathematical Statistics

I cannot emphasize enough how important it is to take Discrete Math and Real Analysis! In Ph.D. Micro, you will begin by proving many (“basic”) economics concepts mathematically. I deeply regret not having taken Real Analysis prior to the start of the program.

These courses are recommended but optional.

Ordinary Differential  
Equations

Mathematical Modeling

Partial Differential Equations

## 2. Research and more

The Ph.D. is a research degree, so I assume you are already very fond of the scientific method and have a strong interest in research. Start looking early and make a bookmark folder of opportunities. The Oxy Undergraduate Research Center Summer Program is a great opportunity. If you like a class a lot, go to the Prof’s office hours and ask (innocently) whether you may be able to get involved in some kind of research project. There are also many research opportunities available outside of campus. Make sure you check out the NSF REU list. The EPA has a STEP program, NOAA has the Hollings program, and many other programs exist out there. Smithsonian’s SERC is also very interesting if you want some exposure to physical or biological science research [for the interdisciplinary you!]. Once you get a good topic going, make sure you achieve some kind of end product (presentation, paper, etc...) even if it is not yet of publication quality. There are many platforms to present undergraduate research (conferences, undergrad journals, etc...) So, don’t be shy and produce a product! Eventually one of these projects may become a good thesis topic. Oh yes, I almost forgot to mention: Write an honors thesis! It is the best possible preparation one can have for graduate school and it is a thoroughly rewarding experience (building closer relationships to your recommenders too.)

Once you have some stuff going, go for some awards here and there, there are internal and external scholarships out there!

Don’t do too many things at once, however. Focus on one research project at a time and deliver a good product. Once your interest or the project itself becomes exhausted, find a new topic or opportunity. Learn to say

NO if too many things are happening at the same time. TA sometime too, it's lots of fun.

After your research experiences, you should have a pretty clear idea whether you want to be in research or academia. Then the fun of GRE, letter of recommendations and personal statement begins! If you would like to chat about Ph.D. programs, feel free to contact me at [jasonwong@oxy.edu](mailto:jasonwong@oxy.edu). Enjoy the intellectual (and emotional) challenge. - Jason