UNIVERSITY of SOUTH FLORIDA / #ONEUSF

ECONOMICS

Student Handbook

Fall 2020

Why Study Economics

Economics Degree Programs

Graduate School

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PART I: WHY STUDY ECONOMICS

USF Economics Ph.D. Graduate, Stephen Poteet *... "Economics is a discipline that is very broad and allows you to study areas that you are passionate about. I was able to dive into the world of public policy, explore econometrics, study health preferences, and immerse myself in game theory. You have the ability to pick your own path, and I couldn't have asked for a better school, department, or faculty to help guide me along the way."*

Now that you have completed your first course in economics, it is time to consider how to use what you have learned, whether to take other economics courses, and perhaps whether to consider economics as a major or minor field of study. The purpose of this handbook is to provide you with information to help you make the right decision.

In Part I, reasons for taking (and avoiding) courses in economics are presented. All potential majors should carefully read Part I of this manual before declaring an Economics major. Part II describes the Economics program at the University of South Florida (USF). Part III presents a variety of information concerning graduate study in economics. This handbook provides information for USF students seeking to major in economics through the College of Arts and Sciences (CAS). You will find biographical information on Economics faculty, and descriptions of the elective courses offered.

The Structure of Economics

USF Economics Professor, Dr. Antoinette Criss *... "I began in natural resource economics. It bothered me that people seemed so polarized about natural resources - either we couldn't use them at all, or we didn't have to worry about using them. Economics provided a framework for considering the trade-offs associated with the use of natural resources so that they could be used wisely. That made sense to me."*

Where does economics go after the basic principles' courses? The topics covered in the principles' courses give you some idea of the content of intermediate and advanced courses. The core of undergraduate economics, after principles, is Intermediate Price Theory and Intermediate Macroeconomics. Each of these courses reviews and expands on the theoretical topics studied at the principles level.

Traditionally, undergraduate Economics majors or minors take at least one applied course in the area of Microeconomics, such as Labor Economics, Regulation and Antitrust, or Law and Economics, and one applied Macroeconomics course, such as International Macroeconomics or Economic Growth. These courses are a blend of theory, institutions, and policy questions. Students who are interested in applying economics to data problems will want to take a course in Econometrics (application of statistical methods to economic questions) and perhaps Mathematical Economics.

Economics majors can round out their curricula with courses in specialized areas involving applications of both Micro and Macroeconomics, such as Public Finance, International Economics, Environmental Economics, Economic Development, History of Economic Thought, and Radical Political Economics. Related courses may come from the other social sciences: sociology, political science, psychology, history, and international studies. A good dose of mathematics and statistics is not only helpful in undergraduate economics courses, but also good preparation for careers in government or business, or for graduate study.

Majoring in Economics

USF Economics Ph.D. student, Zahra Akbari *… "I have asked myself many times what it means to be an economics student. Honestly, it doesn't feel like a major anymore to me. It is mostly like the way I live my life these days. From every decision I make to anything happens in my life, I see how economics changed my view and my actions. You will have a different process of thoughts; you will be different. If you are ready to challenge who are and how you think, choose economics! You are going to study people as individuals and as a whole working like a dynamic system. 'What the world would look like if I know where, when, and what to do to be the happiest I can, considering that life is not perfect'. There it is, that's how I see economics."*

British Economist, Alfred Marshall *… "Economics is a study of mankind in the ordinary business of life."*

You will find that an Economics major prepares you for many professional careers, because economics offers a way of thinking about the ordinary business of life that is clear, concise, and rigorous. Job recruiters and graduate admissions committees are favorably inclined toward Economics majors as candidates for jobs or graduate work in a variety of fields.

One enduring strength of economics is its logical, ordered way of looking at problems and issues. Economics is at the same time the most applied, quantitative, and scientific of the social sciences, and the most theoretical of business degrees. It draws on history, philosophy, and mathematics to confront topics ranging from how households or businesses can make sound decisions to societal issues such as unemployment, inflation, crime, and environmental decay.

An undergraduate Economics major can be ideal preparation for working toward a Master of Business Administration (MBA) degree at a graduate business school, leading to a career in business management. Most business graduate schools encourage students to take at least some economics courses before starting graduate school. In fact, many of the best business graduate schools prefer students with a broad liberal arts background, which an Economics major can provide.

A large part of the content of an MBA program is based on economics. Economics provides the theoretical background for many business courses. In the competition for top

grades in a graduate program, there is an advantage in already being familiar with the central ideas of economics.

Furthermore, an MBA program emphasizes making good business policy decisions. One important approach to those decisions is through economic reasoning. It is certainly helpful to have acquired some skill at this sort of thinking as an undergraduate.

If you plan to be a lawyer, an Economics major offers excellent preparation. Many law schools believe that economics represents one of the best backgrounds for the study of law because economics takes a logical, ordered approach to problems. Specific courses recommended for pre-law students include Intermediate Price Theory, Regulation and Antitrust, Public Finance, Economics of Crime, and Law and Economics. In fact, a study of Law School Admission Test (LSAT) scores found that Economics undergraduate majors performed at or near the top of all majors taking the test.[1]

Graduate training in public policy or public administration, as a preparation for a governmental career in policy analysis, also requires a strong economics background. Virtually every public policy issue has a substantial economic dimension, so Economics majors have a head start in such programs.

Job opportunities are also good for Economics majors who don't go on to graduate school. Governments — federal, state, and local — employ economists in many roles. Private business firms, particularly banks and other financial institutions, also employ economists. Business firms employ Economics graduates to analyze economic conditions, forecast sales, and also to do non-specialized work in sales and management. Students with a strong background in both economics and at least one foreign language may have some exciting opportunities available with multinational corporations.

Many economists are employed in colleges and universities, both as professors and administrators. In general, graduate degrees are required for such positions: a Master's degree for two-year colleges and a Ph.D. for four-year institutions. Numerous economists are employed in international agencies in development planning and policy studies by the Agency for International Development, the United Nations, and the U.S. State Department. Many economists do private research, working as consultants to corporations and government agencies.

Finally, an Economics degree may lead to graduate study and to a career as a professional scholar or teacher. For the nation as a whole, approximately 10% of Economics majors complete a Master's degree in the subject, and 10% of these complete a Ph.D. degree.

[1] *https://www.tandfonline.com/doi/full/10.1080/00220485.2017.1353460*

The Benefits and Costs of Studying Economics

USF Economics Professor, Dr. Michael Loewy, *on why students should study economics at USF ... "Across all three campuses, the Department of Economics at USF is comprised of professors and instructors who recognize the importance of all three components of an academic career: research, teaching, and service. Since research and service are both positive externalities in teaching, the classroom experience of our students is enhanced by faculty engagement in research and service. Moreover, all of our faculty are open to meeting with students, something that is not always found in research-oriented Departments of Economics such as USF."*

College education is only the beginning of a long road that will have countless twists and turns. There is ample time to change jobs and careers. It is for precisely this reason that economics is a good major. You need to prepare yourself to take advantage of whatever opportunities become available. Economics provides a good foundation for such changes because it teaches a disciplined way to analyze and to make choices.

Reasons for Studying More Economics

Pay attention to the Economics majors who are juniors and seniors. They enjoy what they are learning because it is challenging and relevant. It is fun to understand subjects that baffle other students and the general public — maybe even your parents. It is also fun to major in a subject that enjoys prestige. You can wear your Economics major with pride.

Economist, John Maynard Keynes*, tried to capture what was unique about the competent economist in these words: "... the master economist must possess a rare combination of gifts. He must be a mathematician, historian, statesman, philosopher — in some degree. He must understand symbols and speak in words. He must contemplate the particular in terms of the general, and touch abstract and concrete in the same flight of thought. He must study the present in the light of the past for purposes of the future. No part of man's nature or his institutions must lie entirely outside his regard."*

If that sounds like the kind of thinking that challenges your skills, economics may be where you belong.

You are already aware, from your study of introductory economics, of some reasons why many students find economics a challenging area for undergraduate study, while others choose to avoid it. Here are some good reasons for studying economics.

Economics Deals with Vital Current Problems

Inflation, unemployment, monopoly, mergers, economic growth, pollution, free markets versus central planning, poverty, productivity, and other headline issues are all covered in the study of economics. Economics is a problem-based social science, and the problems with which it is especially concerned are among the central issues of our times. These issues fill newspapers and pervade politics. Economics is relevant not only to the big

problems of society, but also to personal problems, such as jobs, wages, unemployment, the cost of living, taxes, and voting.

Economics is a Successful and Prestigious Social Science

The accomplishments of economics have established it as perhaps the most successful social science. No other social science has had equivalent impact in applying reason and science to the shaping of the nation's social destiny. No other social science has a Nobel Prize. The Council of Economic Advisers is unique; no such permanent agency exists for any other social science. Indeed, few scientists of any kind enjoy so much prestige as the economists Paul Samuelson and Milton Freidman.

Economics Uses Theoretical Models and the Scientific Method

Some students become impatient with the seemingly endless array of conjecture and descriptive material that characterizes much of the social sciences. Economics offers a social science with models for organizing facts and for thinking about policy alternatives. Because economics deals with prices and numbers, and because so many of its magnitudes are objectively measurable, economic theory is more fully developed than most other kinds of social theory. Many students find this rigor and completeness one of the attractive aspects of studying economics.

Sometimes students view math as a fascinating game or language, but are impatient at not being able to use it for human problems. While mathematics is increasingly used by all the social sciences, economics has long been in the forefront in this respect. A student with a background in algebra, geometry, calculus, and statistics finds many places to use these skills in economics.

Economics Majors Have Many Career Options

As noted earlier, economics leads to a diversity of career opportunities. These include careers in business, law, journalism, teaching, educational administration, politics, finance and banking, government service, public and private overseas service, labor leadership, or graduate study in a related professional area, such as law, business, or public administration.

Employers, particularly business firms, looking for liberal arts graduates often favor Economics majors because these students are a preferred employment risk. The demands of the Economics major itself tend to drive away the less ambitious, while many better minds are attracted to it. Thus, an Economics degree may prove to be a valuable credential. A good grade point average (GPA) in economics courses speaks for itself. The payoff goes beyond getting a job; the salaries of economists, both academic and non-academic, tend to be higher than those of other social scientists and many other business majors.

What Some People Have Done with an Economics Major

- Steve Ballmer, CEO of Microsoft
- Cate Blanchet, Actress
- John Elway, NFL Quarterback
- Donald Trump, Gerald Ford, Ronald Reagan, Presidents of The United States
- Millard Fuller, Founder of Habitat for Humanity
- Billy Kidd, Professional Skier
- Jeremy Lin, NBA Player
- Sandra Day O'Connor, First female Justice of Supreme Court
- Lionel Richie, Singer/Songwriter

All information compiled by Dr. Greg Delemeester at:

https://www.merrimack.edu/academics/liberal_arts/economics/famous_people_who_have_economics_degree.php

An Economics Major Prepares Students for Community Leadership

A knowledge of economics and an understanding of current economic institutions and problems are not only essential for certain occupations, but for leadership roles as well. Economics can serve as an avocation as well as a career foundation. As a person knowledgeable about economics, you may play a leading role in a local or national political party, a civic club or organization concerned with the local economy, a union or teacher's association, or be an informed commentator on current issues in any setting. Few disciplines are equal to economics in preparing one to be an interested, interesting, and understanding observer of passing events and a leader in making decisions that require understanding economics.

Reasons for Avoiding Courses in Economics

There are reasons why students avoid studying economics. Other disciplines may simply be more attractive; something else may interest students more. Here are some reasons for avoiding economics.

Economics is a Quantitative Social Science

Some students find that mathematical thinking is difficult, or they simply lack a mathematical background or interest. While it is true that much of economics is presented in a narrative-descriptive form, mathematics is frequently employed as a way to understand economic phenomena because of its greater precision and clarity. It is possible, however, for a student who has only a basic knowledge of algebra, geometry, and introductory calculus to major successfully in economics. Lack of interest and ability in mathematics, however, would make it unlikely that such a student would do well in graduate studies in economics.

Science, even social science, is a bore to some students and a threat to others. They are unwilling to employ a method that begins with careful observation and proceeds to hypotheses, then to testing and possible verification, and finally to a tentative conclusion. If you are unwilling to accept the constraint of scientific methodology, perhaps you should look elsewhere for a major.

Economics Involves Abstract Thinking and Theory

Some students have an aversion to theoretical thinking. They defend their aversion by saying that theory is impractical or irrelevant. Their minds thrive on the concrete, the real, but they are turned off by theory. Underlying this attitude is a valid complaint. Teachers of a science, such as economics, that has developed an extensive theoretical system sometimes make mastery of theory the primary goal of their teaching, rather than using theory as a tool for understanding real problems. Thus, students may legitimately complain that, while economics is potentially the most relevant of the social sciences, it is sometimes taught as if it is hardly related to the real world. You can overcome this problem by mixing theory courses with applied, policy-oriented courses or by challenging your professors to offer more concrete examples and applications of theory.

Economics is a Narrowly Focused Discipline

Other social sciences often study society or societies as a whole, including their economic aspects (for example, anthropology, history, or sociology). Economics tends to exclude many very important aspects of society. It usually takes as given the tastes and preferences, the family relationships, the political structures, and the goals of society, and leaves those questions to other fields of study.

If social science or social philosophy is what you really want to study, then you should consider another major. On the other hand, if the economic side of life really fascinates you, and you want to put what you learn in your economics courses in the context of social institutions and social philosophy, you could major in economics and use electives outside of economics to broaden this sometimes narrowly focused discipline.

Economic Reasoning Can Seem Stifling

Economists are always considering costs; that is, they are constantly reminding people that choices usually are made at the cost of other things. Economics is a conservative science in that it seems to make people aware of possible costs of change. The economic way of thinking may lead to an obsession with efficiency, i.e. with improving the organizations of society with the purpose of attaining whatever society values. In its defense:

Economist, Alfred Marshall *... "Economics is a science concerned with the 'material means to a refined and noble life.'"*

Before it is possible to be creative, it is first necessary to be productive.

If you are a creative person, you might want to combine an Economics major with some complementary discipline, perhaps from the creative arts. Such a combination might enable you to become an intellectual leader in the effort to broaden the scope and perspective of economics or to develop new applications of old methods to achieve new purposes. Economics is an evolving social science, and you could play a role in its evolution.

Career Opportunities for Economists

Economist, Jacob Viner *... "Economics is what economists do."*

What is it that an economist does? According to the National Science Foundation, an economist is someone who has had professional training in economics at the graduate level and is a member of a professional group, such as the American Economic Association (AEA) or the National Association of Business Economists (NABE).

The economist's job title may or may not include the word economics or economist, particularly if his or her background is limited to an undergraduate major in economics. Instead, a Bachelor of Arts (B.A.) economist is likely to have a job that makes use of training in economics as a basis for a position in personnel, management, marketing, education, or some other field.[2] Undergraduates apply for jobs with titles such as analyst (in finance or marketing or government policy, for example), manager, planner, coordinator, teacher, or consultant, but rarely economist. If you want to be an *economist* as such — to pursue one of the three traditional career paths of academia, government, or business — you will usually need graduate training.

The Academic Economist

Almost half of all professional economists are college teachers. A Ph.D. degree is essential to teach at a four-year college. Junior college instructors usually have a Master's degree in economics, but a Ph.D. or work toward a Ph.D. may be required.

A new Ph.D. graduate generally begins an academic career as an assistant professor. Most starting salaries in 2019 ranged from $96,000 to $136,000[3], depending on the academic program of the university. Salaries vary widely with the type of school and the area of the country, as well as the particular skills and area of specialization that the new faculty member has to offer. Responsibilities usually include teaching from two to four courses a term. Promotion to associate professor and tenure (permanent employment) typically takes from three to seven years. At more prestigious schools, the rule for promotion and tenure is *"publish or perish."* Faculty members must publish articles (and, increasingly, obtain research grants) in order to be promoted. Promotion to the full professor rank usually occurs from five to 15 years after the promotion to associate

[2] Very few undergraduate degrees lead to jobs in which the job classification is the same as the student's major. Accounting and engineering are two exceptions to this rule.

[3] Based on 77 reporting universities in the American Economic Association UAQ Summary 2019.

professor, depending on the candidate's research record, publications, and teaching ability.

Academic economists often supplement their incomes by writing textbooks and other educational materials and by consulting. In recent years, economists have provided consulting services for a variety of clients in such diverse areas as environmental quality, health care, public education, the value of human life in lawsuits, rural development, and industrial location.

The Business Economist

The rapidly growing professional field of Business Economics reflects the increased use of economics as a business tool. For many years the business community disdained academic training and expressed a preference for practical experience. Early business schools were largely training grounds for middle managers, founded to teach accounting and practical management skills. Any contact that these early business students had with economics was accidental and usually unsatisfactory; economists were considered theoretical ivory-tower dreamers. Bernard Baruch, the famous industrialist, was reported to have defined an economist as a man with a Phi Beta Kappa key on his watch chain, but no watch!

Today's economics courses play a major role in the general business curriculum. The increased interest in the uses of economics in business is also reflected in the increasing number of graduate-trained economists in the business community and on the faculty of business schools. Economists today are found throughout the business community from top management positions down through the company hierarchy.

It is most likely that an economist would begin a business career in a firm's Economics Department. These organizational divisions undertake a variety of tasks, including forecasting the general business environment and how it might affect markets in which the particular firm operates, interpreting the effects of governmental policy on the firm, and gathering and processing economic data. From this beginning, the economist may move into the management side of the business organization. In this manner, the economist is following the same career path often pursued by engineers, accountants, and lawyers who work for private business firms. Business economists receive excellent salaries and are in great demand. The largest employers of economists, according to the NABE are firms engaged in manufacturing, banking, business services, and securities and investments. In 2018, persons with an Economics Bachelor's degree received a median starting salary of $69,000 a year; a Master's degree received a median starting salary of $76,000[4].

The Government Economist

Since the New Deal era in the 1930s, economists have moved into the forefront of governmental policy analysis. In recent years, economists have begun to displace

[4] *Payscale.com*

political scientists and lawyers in top government administrative posts. Recent presidential cabinets have included a high proportion of economists.

There are positions for economists in every federal governmental agency, primarily as policy analysts. A few positions are available at junior grades for economists with undergraduate degrees, but most government economists must possess an Economics Master's or Ph.D. degree. There are jobs for labor economists, international economists, agricultural economists, development economists, public finance economists, and population economists, as well as macro and micro economists. The duties of a governmental economist are very diverse and in large part depend on the particular governmental agency. For example, in the State Department or the CIA an economist might become an expert on the economy of a particular country; in the Office of Management and Budget, an expert in a program area such as welfare or health care; and at the Treasury, a specialist in tax policy.

Until the 1970s, except for the Joint Economic Committee, very few congressional committees or individual congressional staffs hired economists. Since 1974, the Congressional Budget Office, which is staffed by economists, has become an important research arm of Congress. It serves the same research role as the Office of Management and Budget does for the President. Legislation and issues facing Congress are becoming increasingly complex and economic in nature. As a result, Congress is turning to economists for expert advice on these issues.

Salaries for government economists vary by region. In 2020, an individual with a B.A. or a Bachelor of Science (B.S.) degree and at least 21 semester hours in economics can get a job at the GS5 level with a starting salary of $37,193; GS7 level, $46,070; GS9 level, $56,354; and G11 level, $68,182, respectively. An Economics Master's degree qualifies one to start work at the GS9 level at $45,627 per year, and a Ph.D. qualifies an individual to start work at the GS11 level at $55,204 per year[5]. For more information on jobs with the federal government, visit *www.usajobs.gov*.

Another area of employment for economists is in state and local government. State government economists play a wide variety of roles, just as they do in the federal government, but there are a few differences.

State economists are more likely to be involved with Microeconomic problems and issues because states do not carry out independent monetary and fiscal policy. They are also likely to be less narrowly specialized, working on a variety of problems and issues. Developing strategies for state economic development, compiling state economic indicators, interpreting the impact of changes in federal policy on state agencies and programs, and developing good state and regional data bases are all important responsibilities for state government economists. Almost all state governors now have the services of at least one economist in a high administrative position.

[5] *U.S. Office of Personnel Management, Salaries and Wages*

At the state and local level, the primary areas of research by economists are labor market analysis, school finance issues, state and local taxation and tax reform, natural resource and environmental issues, and budget expenditure analysis. Economists are also moving into important administrative responsibilities in state and local government.

Table 1: Careers in Economics

ACADEMIC: Teaching, research and writing and/or administration at a
- major university
- graduate school
- state college
- small private college
- junior college
- technical school
- secondary school

RESEARCH: In a private or public economic research organization

BUSINESS: Forecasting, planning, and other economic tasks for
- banks and financial institutions
- manufacturing
- wholesale and retail trade
- multinational firms

Consulting for private firms and public agencies
Economic journalism
Marketing research

SPECIAL INTEREST GROUPS: Economic advisor, interpreter, defender, speech writer for
- lobbying/research organizations
- political party candidate

GOVERNMENT: Policy analysis or statistical work for
- international agencies
- federal, state, or local government

PART II: ECONOMICS DEGREE PROGRAMS

Master of Arts Degree Program

The Economics Department at USF offers a Master of Arts (M.A.) degree through the CAS. Students are required to complete 30 hours of graduate credit with a minimum of 24 hours in economics. A full-time student may complete the program in a single calendar year, although most students take four semesters.

Program Requirements

The M.A. in Economics is a terminal degree, designed to prepare students for entry into business, government, or further study in a Ph.D. program. In addition to the required courses listed below, we currently offer the following elective courses: Advanced Microeconomics, Advanced Mathematical Economics, Advanced Econometrics, Forecasting and Time Series Analysis, Behavioral Economics, Industrial Organization, Economics of Health Care, Issues in Regulation and Antitrust, and Labor Economics.

Students must satisfy all university requirements for the Master's degree. In addition, the department requires students to complete 30 hours of graduate credit selected with the approval of the Graduate Advisor of the department. At least 24 hours must be in economics and must include:

- ECO 6115 Microeconomics I (3)
- ECO 6206 Macroeconomics I (3)
- ECO 6405 Mathematical Economics I (3)
- ECO 6424 Econometrics I (3)

Students must achieve a minimum 3.0 GPA in these four courses and an overall 3.0 GPA. Prior to clearance for the degree, each candidate must perform satisfactorily in an oral examination.

For more information, please contact the M.A. Program Director, Dr. Michael Loewy, (813) 974-6532, or send an email to econma@usf.edu.

Graduate Employment Information

In 2017, the median annual wage for economists was $102,000[6]. Locally, placement of USF graduates in the private sector includes Urban Economics, Jabil Circuit, Price-Waterhouse Coopers, TECO, AT&T, Raymond James, Sun Trust Bank, Real Estate Research Consultants, Mitsubishi Power Systems, Credit Suisse Group, Revenue Management Solutions, Baker Leisure Group, and Tindale-Oliver Associates. These jobs generally involve data analysis and forecasting.

[6] *www.bls.gov/ooh*

Graduates have obtained employment in all levels of government: Specifically, USF Center for Urban Transportation Research, State of Florida Office of the Comptroller, Metropolitan Planning Organization, U.S. Bureau of Labor Statistics, U.S. Department of State, U.S. Department of Commerce, SWFRPO, Department of Defense, and the County Planning Commissions of Hillsborough, Pinellas and Pasco counties.

Lastly, many students stay in academia, either by pursuing a Ph.D. in Economics or teaching at the community college level. At local community colleges[7], starting salaries for new instructors range from $43,000 to $58,000. For students interested in pursuing a Ph.D., the objective is to provide the background needed to obtain admission to a high-quality Ph.D. program, and once there, to compete successfully. Emphasis is placed on providing the technical and analytical skills required in doctoral work. USF graduates have gone to high-quality Ph.D. programs, including those at the University of Texas, Austin, Texas A&M University, University of California, Irvine, University of Illinois, Vanderbilt University, Johns Hopkins University, University of Florida, University of Virginia, Florida State University, and University of Wisconsin-Milwaukee.

Admission and Financial Aid

Applicants should have a Bachelor's degree and a strong undergraduate record. A major in economics with a strong quantitative background is preferable. However, arrangements can be made that permit a candidate with minimal background in economics to pursue the degree. Applicants must submit scores from the Graduate Record Examination (GRE). Applications should be submitted by the deadlines provided in the graduate catalog. Applicants are judged on their test scores and undergraduates' records.

At USF, financial aid in the form of teaching assistantships is available to full-time students. For the 2019-2020 year, on a per semester basis these assistantships provided a student approximately $6,200, a substantial student health insurance subsidy, and a nearly complete tuition waiver (some items billed as "fees" are not covered).

As the above discussion indicates, our recent graduates have done quite well in the job market. When one considers the higher salaries obtainable with a Master's degree, the investment of resources necessary to obtain a Master's degree has a high rate of return.

Ph.D. Degree Program

The Ph.D. program in Economics at USF offers a challenging environment for personal intellectual development. The program prepares students for teaching and research in universities and for policy analyst positions in business or government. The program draws advantage from strong faculty research involvement and USF's urban location. For more information, contact the Ph.D. Program Director, Dr. Murat Munkin, at (813) 974-6514, or send an email to mmunkin@usf.edu.

[7] *Community College (Central Fla.) Salaries*

Resources

For advising appointments:

USF Students:

https://usf.appiancloud.com/suite/sites/archivum/page/archivum/report/daQEig

Non-USF Students: *https://usfweb.usf.edu/escheduler/NonStudentlogin.aspx*

USF Department of Economics website: *http://economics.usf.edu*

American Economic Association: *https://www.aeaweb.org*

PART III: GRADUATE SCHOOL

Preparing for Graduate School

Many career possibilities require graduate training. If you think you may need graduate work in economics for your chosen career, you should begin planning now. You might start by reading an article about the experiences of graduate students in economics by *David Colander and Arjo Klamer, "The Making of an Economist."* They report on a survey taken of graduate students enrolled in six top-ranking graduate programs in economics, covering their areas of interest, perceptions of how to succeed, and different views on policy issues and theoretical controversies at different institutions.

Graduate schools in economics currently award approximately 970 Ph.D. degrees, 1,900 Master's degrees, and 21,000 Bachelor's degrees[8] annually. There are over 100 graduate schools in the United States offering the Economics Ph.D. degree and a number of others offering only a Master's degree. Which ones would you like to attend? To which ones should you apply? What should you do as an undergraduate to prepare for graduate school and to increase the likelihood of being admitted to the schools of your choice?

Undergraduate Preparations

If you aspire to graduate study in economics (or if you are unsure but want to keep that possibility open), there are certain guidelines you should keep in mind when choosing your undergraduate courses.

Mathematics

Most graduate departments require a background in mathematics, including at least introductory calculus and statistics. Matrix algebra is also helpful. Some schools offer a course called Mathematical Economics, in which students learn mathematics in a context of economic applications. Some graduate departments allow you to make up deficiencies in mathematics after entrance, but you will be better prepared if you acquire some of the needed mathematics as an undergraduate.

Theory

Macro and Micro Theory are the basic foundations for graduate study. Your first graduate courses will probably be in Micro and Macro Theory, but the professor will assume a firm foundation in Basic Theory at both the introductory and intermediate levels. Economics is a science based on theory; there is no more important part of your undergraduate economics study than theory courses as preparation for graduate study.

[8] *Based on 307 reporting universities in the American Economic Association UAQ Summary 2017.*

Grades

If you are to go on to graduate school, your undergraduate grades really matter. A minimum 3.0 GPA is essential. An upward-moving GPA as you progress through your undergraduate studies may indicate blooming promise. A GPA that falls as commencement approaches makes admission much less likely.

Related Skills and Interests

Graduate study in economics is usually very specialized. Your area of specialization may depend in part on the kinds of courses you took other than in economics and the interests you developed in undergraduate school. Knowledge of a foreign language may be a major determinant of how you later use your economics. A working knowledge of Chinese, Russian, or Arabic may provide a highly marketable skill (for research, for government service or for work in a multinational corporation or other international entities). Likewise, an economist with a strong foundation in accounting, in law, or in politics has a combination of talents of unusual value. An economist who is skilled in communication — in listening and understanding, in writing and speaking — has one of the scarcest talents in the profession. With the expansion of knowledge and the consequent alienation of economics from the average citizen by reason of its use of a specialized vocabulary and language, the synthesizer or communicator of knowledge is becoming indispensable.

The foundations of all these skills (languages, related disciplines, communication skills) must be laid in undergraduate school. Indeed, your undergraduate education is likely to be more important than your graduate training for determining whether you become anything more than a technically competent economist. Give some thought to development of other skills and interests that expand or complement your skills as an economist.

Selecting a Graduate School

Determining Your Goals

Before trying to select a school, review and possibly revise your goals, for they should influence your choice of the right school for you. You may need a year of some other kind of experience between undergraduate and graduate work to help you define and reconsider those goals. A year of work, or an internship in business or government, can be invaluable.

What kinds of professional roles do you find appealing? You may have identified some aspect of economics that you would like to develop as a specialty. There may also be some particular personal skills that you already possess or hope to develop to a very high level of proficiency. For example, you may have a particular talent for the application of mathematical methods in economics; for teaching, clear writing, oral explanation, or argument; for interpreting economic ideas, synthesizing and clarifying professional

and/or political issues. These interests and skills will help you to identify a field of specialization (shown in Table 2) and some possible career choices.

Table 2: Fields of Specialization in Economics

- Agricultural and Natural Resource Economics
- Business Economics
- Economic Development
- Economic Growth
- Economic History
- Economic Systems
- Environmental and Ecological Economics
- Financial Economics
- Health, Education and Welfare
- History of Economic Thought
- Industrial Organization
- International Economics
- Labor and Demographic Economics
- Law and Economics
- Macroeconomics and Monetary Economics
- Mathematical and Quantitative Methods
- Microeconomics
- Public Economics
- Urban, Rural, Regional, Real Estate, and Transportation Economics

Constraints on Your Choice

Before looking at graduate schools, you need to identify what constraints are likely to limit or influence your choice. Here are several that may apply.

Money

Do you have the financial resources to attend school? In 2015-2016, the latest year available, the average price of attendance for a Master's degree in Economics was $26,600, and $36,800[9] for a Ph.D. in Economics. If not, are you able and willing to work? What about fellowships, assistantships, loans, and so forth? Most graduate programs offer some form of financial assistance, but the fraction of costs that financial aid will cover is highly variable, and more difficult to obtain at the more prestigious institutions. Financial assistance will depend on your undergraduate record. Most Ph.D. programs offer advanced students the opportunity to teach undergraduate courses to enable them both to develop teaching skills and to earn an income.

[9] www.nces.ed.gov, *"Trends in Graduate Student Financing: Selected Years, 1995-96 to 2015-16."*

Status

How important is the prestige of the institution from which you are to receive your degree in terms of your career opportunities? The status of the graduate school is more important for academic positions than for business or government. In state and local government, it is often helpful to attend a school in the region in which you ultimately would like to work.

Your Academic Qualifications

The most important qualifications are your undergraduate grades and courses. A minimum 3.0 GPA is required for almost any graduate program, and considerably higher in the more prestigious programs. The Graduate Record Examination (GRE) is often required; sometimes an excellent score on the GRE will make up for some deficiencies in your undergraduate record. The status of your undergraduate school and the quality of your references can also make a difference. You will be competing with graduates of other, perhaps better known, colleges and universities. Finally, while it is possible to be accepted for graduate work in economics with a background other than an undergraduate Economics degree, you should at least have had the essential training in mathematics and economic theory.

Geographic Location

Are there important reasons — family or personal preferences — that would incline you to study in one part of the country as opposed to another? Where would you like to be employed upon graduation? Some graduate schools have a national reputation and hence, a national placement market. Others are regional; if you are interested in a particular geographic area, you may be better off going to school in that area, particularly for a career in business or state government.

Schools Offering the Economics Ph.D. Degree

Table 3 presents a list of the top 10 universities offering a Ph.D. in Economics.[10] Table 4 provides a list of all U.S. schools offering a Ph.D. in Economics listed by geographic region.

[10] *"The 30 Best Universities in the World for Economics," Business Insider*

Table 3: Top 10 Economics Departments

1-4	Harvard University
	Massachusetts Institute of Technology
	Stanford University
	University of California – Berkeley
5 (tie)	London School of Economics and Political Science
	Princeton University
7-10	University of Chicago
	Yale University
	University of Oxford
	University of Cambridge

Table 4: U.S. Schools Offering the Ph.D. in Economics

MID-WEST

- Chicago, University of
- Cincinnati, University of
- Illinois at Chicago, University of
- Illinois at Urbana-Champaign, University of
- Indiana University
- Indiana University-Purdue University Indianapolis
- Iowa State University
- Iowa, University of
- Kansas State University
- Kansas, University of
- Michigan at Ann Arbor, University of
- Michigan State University
- Minnesota, University of
- Missouri at Columbia, University of
- Missouri at Kansas City, University of
- Nebraska at Lincoln, University of
- Northern Illinois University
- Northwestern University
- Notre Dame, University of
- Ohio State University
- Purdue University
- Southern Illinois University at Carbondale
- Washington University at St. Louis
- Wayne State University
- Western Michigan University
- Wisconsin at Madison, University of
- Wisconsin at Milwaukee, University of

NONCONTIGUOUS

- Hawaii, University of

NORTHEAST

- Boston College
- Boston University
- Brandeis University
- Brown University
- Carnegie-Mellon University
- City University of New York Graduate Center
- Clark University
- Columbia University
- Connecticut at Storrs, University of
- Cornell, University of
- Drexel University
- Fordham University
- Harvard University
- Lehigh University
- Massachusetts at Amherst, University of
- Massachusetts at Boston, University of
- Massachusetts Institute of Technology (MIT)
- New Hampshire, University of
- New York University
- Northeastern University
- Penn State University
- Pennsylvania, University of
- Pittsburgh, University of
- Princeton University
- Rensselaer Polytechnic Institute
- Rhode Island, University of
- Rochester, University of
- Rutgers University
- State University of New York at Albany
- State University of New York at Binghamton
- State University of New York at Buffalo
- State University of New York at Stony Brook
- Syracuse University
- Teachers College at Columbia University
- Temple University
- The New School
- Tufts University
- Yale University

PACIFIC

- California at Berkeley, University of
- California at Davis, University of
- California at Irvine, University of
- California at Los Angeles, University of
- California at Riverside, University of
- California at San Diego, University of
- California at Santa Barbara, University of
- California at Santa Cruz, University of
- California Institute of Technology (Caltech)
- Claremont University
- Oregon State University
- Oregon, University of
- Southern California, University of
- Stanford University
- Washington State University
- Washington, University of

ROCKY MOUNTAINS

- Colorado at Boulder, University of
- Colorado School of Mines
- Colorado State University
- Nevada at Reno, University of
- Utah State University
- Utah, University of
- Wyoming, University of

SOUTHEAST

- Alabama at Tuscaloosa, University of
- American University
- Arkansas at Fayetteville, University of
- Auburn University
- Clemson University
- Delaware, University of
- Duke University
- Emory University
- Florida International University
- Florida State University
- Florida, University of
- George Mason University
- George Washington University
- Georgetown University
- Georgia Institute of Technology (Georgia Tech)

- Georgia State University
- Georgia, University of
- Howard University
- Johns Hopkins University
- Johns Hopkins University (SAIS)
- Kentucky, University of
- Louisiana State University
- Maryland at College Park, University of
- Memphis, University of
- Miami, University of
- Middle Tennessee State University
- Mississippi State University
- Mississippi, University of
- New Orleans, University of
- North Carolina at Chapel Hill, University of
- North Carolina at Greensboro, University of
- North Carolina State University
- South Carolina, University of
- South Florida, University of
- Tennessee, University of
- Tulane University
- Vanderbilt Law and Economics
- Vanderbilt University
- Virginia Tech
- Virginia, University of
- West Virginia University

SOUTHWEST

- Arizona State University
- Arizona, University of
- Houston, University of
- New Mexico, University of
- Oklahoma State University
- Oklahoma, University of
- Rice University
- Southern Methodist University
- Texas A&M University
- Texas at Austin, University of
- Texas at Dallas, University of
- Texas Tech University

Armed with this list, how should you identify possible departments for further study? The following is a list of criteria you may want to employ in evaluating departments. Individual criteria are not listed in order of their importance; you must determine what is important.

Professional Status of the Department

Would you prefer to attend one of the more prestigious departments (and do you have the qualifications)? If so, then the top six rankings in Table 3 are your guide. Keep in mind that in the past, the academic economic community has been very stratified. A graduate of one prestigious school may be employed by another prestigious school and may be avidly sought after by the lower-rated ones, while a graduate of a little-known department is likely to move on to another little-known department, or possibly into government or employment in which one is judged more by what one can do than by the prestige of the school from which one graduated.

Location of the School

If you have a preference as to the part of the country in which you want to study, Table 4 should assist you in identifying schools in your preferred region. If your graduate school professors are willing to help in your future job search, their contacts are likely to be local with the exception of top-rated institutions, and thus they can be most helpful in the immediate region.

Maturity of the Doctoral Program

You may prefer one of the more mature departments or one of the newer programs. Newer departments may try harder. Being smaller, and knowing that the reputation they have yet to build will be through their products, they may invest more time in the development of individual students. Or, being insecure, they may be more conservative and traditional. They may seek to copy the prestigious programs rather than trying to be innovative.

Information from Descriptive Brochures

You should select a few economics departments from this list for a more thorough investigation. Most departments publish descriptive brochures which they will mail to prospective students, or which may be available on-line. Program descriptions can also be found in the latest *"Peterson's Annual Guides to Graduate Study — Economics",* or the AEA's *"Graduate Study in Economics"*. These two resources offer brief summaries of each department and its program. While you should perhaps focus on your selected schools, browsing is a good idea, for you may discover possibilities you had not previously considered. What are some of the criteria to keep in mind?

Curriculum Design

- Largely prescribed or elective?
- Narrow in focus or broad?
- Confined to economics courses or permitting some from other fields?
- Prerequisites?
- Math requirements?
- Traditional in design, innovative, or experimental? Adequate course alternatives?

- Adequate areas of specialization?
- Enough course offerings and faculty members actively doing research in your area of special interest?

Department Specialization

- Is there any evidence that the department is trying to make anything special of itself?
- Beware of the unfocused aim of general or all-around excellence. Are the specialties of the department of real interest to you?
- Are they marketable?

The Department's Values

Watch for clues as to what the department really values. What kind of information is stressed about its faculty members or its graduates — scholarship, teaching, status, number of publications? What is stressed in its view of economics — rigor, relevance, the place of applied or institutional economics? In the description of the goals of the department's Ph.D. program, what seems to be most important? How does the department seem to value teaching, research, and public service?

Department Size

A class of around 50 graduate students has been suggested as an optimum size, large enough to permit a reasonable variety of courses and to foster an effective intellectual community of students. You will learn a great deal with and from your fellow students. In very large departments, one's choices and contacts may be increased, but possibly at the expense of impersonalization. The reverse may occur in very small departments.

Cost, Assistantships, and Student Aid

If these considerations are important to you, contact the university's graduate office or the department and request information. Usually, there is considerable financial assistance available for graduate study.

Student Body

Are most of the students full-time? Is there a large component of the program that is taught in the evening for part-time students? Is a large part of the student body from foreign countries? What percentage of the students is supported by assistantships?

Interpreting Graduate Catalogs and Materials

From your survey of department brochures and national guides to graduate Economics departments, you should be able to narrow your choice to several which appear to meet your goals and fit your constraints. Write to those departments for catalogs and application blanks, or inspect the catalogs found in your school library. Your professors may have suggestions, although you may want to discount recommendations that you

attend their alma maters. In addition to the above criteria, here are other kinds of information that the catalog may contain or that you can search out from other sources.

Department Efficiency, Courtesy, and Imaginativeness

A department may reveal itself to you by the way it responds to your interest. Has it been prompt, imaginative, and helpful in designing materials to aid your choice?

Teaching

How seriously does the department take its teaching? For example, are new graduate students just out of undergraduate school immediately assigned to teaching? This may be a clue that the department really does not take teaching seriously and exploits cheap student labor in order to free faculty time for research. Is there a teaching seminar for graduate students who are being trained to teach? Is there a carefully planned teaching apprenticeship as part of the Ph.D. program? Or does the department leave students to learn these skills for themselves?

Quality of Faculty

The list of faculty or perhaps brief biographies the department may provide should indicate where faculty members received their degrees, what their scholarly interests are, and where and how recently they have had books or articles published. How many faculty members really seem to have a currently vital professional specialty?

Employment Market

Where are its graduates placed? Does it have contacts with markets for the kind of employment you want? This test is particularly important because it provides a market evaluation of the quality of the program.

Special Facilities and Programs

What is the quality of the school's library, computers, and data banks? What does it offer in the way of lecture programs, seminars, workshops, and visiting professors? How successful are its faculty in obtaining outside funding and grants?

The information in Table 5 will be useful to you in preparing for and applying to graduate school.

Table 5: Calendar for Graduate School Applicants

- ***Sophomore and Junior Years*** – Prepare; choose your curriculum carefully; consider your career goals and possible areas of specialization.
- ***Early in your Senior Year*** – Review your goals and constraints, put together your list of potential schools, and take the GRE. The GRE is similar to the SAT or ACT, only more difficult. Many schools require this test in order for you to be considered.
- ***Late fall semester, Senior Year*** – Survey flyers, write for information, and make application to three or more schools, including a sure one.
- ***January to April*** – Await results, make plans to relocate and enjoy commencement.

Economics as an Avocation

After all this discussion of economics careers and graduate schools, the truth of the matter is that most students who take the principles course will not major in economics. Even those majoring in economics are likely to be employed in some occupation other than that of economist. For the majority, economics will be, at most, an avocation that makes you a more informed citizen. Some of the economics you have learned in this course will be superseded by new theories, new institutions, and even new problems. Ten years ago, economics textbooks devoted much less space to international economic issues and the linkages between national economies that are now of such great concern. You have, however, learned principles that will allow you to sort through these new problems. The course you have just finished will have been successful if it opened your eyes to how the economy works and sparked your interest in studying it!

Regular Reading for the Armchair Economist

While professional economists read journals such as *The American Economic Review* or *The Journal of Political Economy*, there is considerable reading material available for the armchair economist who wishes to keep abreast of new developments and economic events. Here are some suggestions for daily, weekly, monthly, or occasional reading:

Daily: A good local newspaper and the *Wall Street Journal*.

Weekly: Any good news magazine carries business and economics news, including *Newsweek, Time,* and *U.S. News & World Report*. If you are interested in international news with a strong economic flavor, the British weekly, *The Economist*, is an excellent resource. Weekly or bi-weekly business magazines include *Business Week*, *Fortune*, and *Forbes*.

Monthly *or* ***Quarterly***: The Brookings Institution publishes the *Brookings Review* each quarter with policy analyses; its more conservative counterparts also have regular publications. The American Enterprise Institute publishes *Contemporary Policy Issues* and the Heritage Foundation, *Policy Review*. For interesting data sources and analyses of

trends in particular areas, try *Monthly Labor Review* (employment, earnings, and consumer prices), *Survey of Current Business* (output, GDP, interest rates, international trade), *The Federal Reserve Bulletin,* and/or the *Review* published by your regional Federal Reserve Bank (money, banking, prices, and regional economic conditions). These quarterly *Reviews* are usually available free of charge. There are a number of issues-oriented magazines for popular consumption such as *Challenge: The Magazine of Economic Affairs*.

- ***Every Thursday***: Money supply figures
- ***First Week***: Unemployment for prior month, both actual rate and seasonally corrected rate
- ***Second Week***: Producer prices (wholesale price index) for prior month, both actual and seasonally corrected index. (Either the first or second Friday of the month).
- ***Third Week***: Industrial production index for prior month. Personal income for prior month. This is the only monthly national income figure, and thus, a monthly indicator of changes in aggregate output.
- ***Fourth Week***: Index of leading indicators for prior month. This is an index of variables that tends to lead real output; that is, tends to indicate when booms or recessions are likely to be coming. Consumer price index for prior month, both actual and seasonally corrected index.

Annually: Both the Brookings Institution and the American Enterprise Institute publish an annual volume that examines public policy in various areas. The titles are *Economic Issues* for Brookings and *Contemporary Economic Issues* for the American Enterprise Institute.

This list is far from exhaustive. In addition to the regular flow of periodicals listed above, many good books on economic subjects written for popular consumption are listed in the suggested reading section at the end of principles textbooks chapters. There is no shortage of materials to keep your economics fresh, lively, and up-to-date. Happy reading!

The calendar of recurring economic events below should aid you in your continued study of economics. These events usually set off reactions in the form of interpretive news articles, editorials, comments by columnists, and television reporting and commentary. This calendar lists the monthly cycle and yearly patterns of recurring economic events and the release of important information.

- ***January***:
  - ✓ First week – AEA annual meeting. Early in month – annual economic review of the prior year and forecasts for current year abound in newspapers and periodicals; for example, the *New York Times*.
  - ✓ After mid-month - *Gross Domestic Product* (GDP) for the October – December quarter. Revised figures are often issued one month later.

- ✓ Last week – President's annual economic message and annual *Economic Report of the President*.

- ***February***: Hearings by the *Joint Committee on the Economic Report*. Prominent economists usually appear. Their views are reported in the press. Budget is submitted.

- ***March***: Final report of the *Joint Committee on the Economic Report*. Around the 20th – balance of payments for the prior year.

- ***April***:
  - ✓ After mid-month – First quarter GDP; personal income figures by state for the previous year, final figures on preceding year for balance of payments and GDP.
  - ✓ Fourth week – Balance of payments for the first quarter.

- ***June***:
  - ✓ After mid-month – Second quarter GDP and state personal income.
  - ✓ Late in month – Mid-year report of *Council of Economic Advisors*. Most state governments end their fiscal year on June 30th and begin the next on July 1st.

- ***September***:
  - ✓ Congress is supposed to complete the budget; if not, passes continuing resolution to keep federal government operating until budget is ready.
  - ✓ Third week – Second quarter balance of payments.

- ***October***:
  - ✓ First of the month – Beginning of new federal budget year.
  - ✓ After mid-month – Third quarter GDP.

- ***December***: Many organizations also sponsor forecast luncheons at this time of year to try to anticipate economic conditions in the coming year.