The Department of Economics offers programs designed to improve the understanding of important economic problems and to provide the tools needed for the critical analysis of these problems and for dealing with them in practice.

On the undergraduate level, the department provides both for those who want to become professional economists and for those interested in a specialty related to economics, such as business, law, government, history, health care management, or environmental engineering. Still other students are simply interested in improving their understanding of society or making informed assessments of economic policies as citizens or making wise decisions about personal finances.

On the graduate level, the department provides advanced training for students preparing for careers as professional economists. The program encompasses such fields as macroeconomics, microeconomic theory, econometrics, labor economics, international economics, industrial organization, economic development, and finance, with an emphasis on the application of economic theory and quantitative methods. Because of the small number of graduate students admitted, they can work closely with faculty in graduate courses and seminars, and have easy and informal access to faculty members. Aside from traditional coursework, research, and special lectures, the department holds three weekly seminars to encourage collaboration and communication in different areas of economics. The seminars attract top scholars from throughout the world to discuss their work and also provide a forum for faculty and graduate students to present their recent research. The department also hosts two annual lecture series, the Johns Hopkins Distinguished Lectures in Economics and the Newcomb Lectures that invite reputed economists or scholars in related fields as guest speakers.

Financial Aid
The department offers a Departmental Fellowship to all enrolled students. This fellowship covers full tuition costs plus an annual stipend of $29,500 and full student health insurance coverage. During a student’s first two years of study, this fellowship support is provided with no teaching assistantship duties. Beginning in the third year of study, students who are performing satisfactorily, will again receive the same Departmental Fellowship coverage as in their first two years. In addition, during years 3, 4 and 5, this will involve a teaching or research assistantship assignment. The department guarantees financial support for a minimum of five years of graduate study, conditional on satisfactory performance and potentially a sixth year as well depending on student performance and the availability of funds.

For further information about graduate study in economics, contact the director of graduate admissions, Department of Economics at econadmissions@jhu.edu.

Carl Christ Fellowship
In the academic year 1989–90, the department established the Carl Christ Fellowship fund to honor one of its faculty members for his distinguished service and achievements. The proceeds of the fund are used to support outstanding graduate students at the dissertation stage of their research.

For further information about graduate study in economics, contact the director of graduate admissions, Department of Economics at econadmissions@jhu.edu.

Center for Financial Economics (CFE)
Founded in 2008 and housed in the Economics Department in the Krieger School of Arts and Sciences at Johns Hopkins, the Center for Financial Economics blends the study of finance and economics, providing in-depth training and cutting-edge research in both. The dual research and teaching missions of the Center are premised on the belief that a deep understanding of modern economies requires an integrated treatment of finance and the broader economic forces driving economic progress. The 2008-2009 financial crisis vividly illustrates the vital need for improved understanding of these issues on the part of practitioners, policymakers, and academics.

The CFE offers an undergraduate minor, producing expertise in finance within the context of a top-notch liberal arts education. The minor will equip students with a thorough foundation in the workings of financial markets and their role in the broader economy, providing a foundation for careers in finance, business, academics, and government. The Center is working toward offering a financial economics major and a Ph.D. in financial economics.

Programs
- Economics, Bachelor of Arts (https://e-catalogue.jhu.edu/arts-sciences/full-time-residential-programs/degree-programs/economics/economics-bachelor-arts/)
- Economics, Minor (https://e-catalogue.jhu.edu/arts-sciences/full-time-residential-programs/degree-programs/economics/economics-minor/)
- Economics, PhD (https://e-catalogue.jhu.edu/arts-sciences/full-time-residential-programs/degree-programs/economics/economics-phd/)

For current course information and registration go to https://sis.jhu.edu/classes/

Courses
AS.180.101. Elements of Macroeconomics. 3 Credits.
An introduction to the economic system and economic analysis, with emphasis on total national income and output, employment, the price level and inflation, money, the government budget, the national debt, and interest rates. The role of public policy. Applications of economic analysis to government and personal decisions. Prerequisite: basic facility with graphs and algebra.
Area: Social and Behavioral Sciences

AS.180.102. Elements of Microeconomics. 3 Credits.
An introduction to the economic system and economic analysis with emphasis on demand and supply, relative prices, the allocation of resources, and the distribution of goods and services, theory of consumer behavior, theory of the firm, and competition and monopoly, including the application of microeconomic analysis to contemporary problems.
Area: Social and Behavioral Sciences
AS.180.203. Faculty Research in Economics. 1 Credit.
This course will consist of a series of informal lectures by various professors in the Department of Economics. Each lecture will consist of a description of a professional research project which he/she has undertaken over the course of his/her professional career.
Prerequisite(s): AS.180.101 and AS.180.102, both may be taken concurrently.

AS.180.210. Migrating to Opportunity? Economic Evidence from East Asia, the U.S. and the EU. 3 Credits.
Increased mobility of people across national borders, whether by choice or by force, has become an integral part of the modern world. Using a comparative perspective and an applied economics approach, the course explores the economic and political determinants, and (likely) consequences of migration flows for East Asia, the US and the EU. Lectures, assignments and in class discussions, will be built around the following topics: i) migrants’ self-selection; ii) human capital investment decision-making; iii) remittance decisions and effects; iv) impacts on labor markets of both receiving and sending countries; and v) the economic benefits from immigration. Overall, the course will give students perspective on the why people choose or feel compelled to leave their countries, how receiving countries respond to migrants’ presence, and the key economic policy concerns that are influencing the shaping of immigration policy in East Asia, the US, and the EU.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.214. The Economic Experience of the BRIC Countries. 3 Credits.
In 2001, Jim O’Neill, the Chief Economist at Goldman Sachs, coined the acronym BRIC to identify the four large emerging economies, Brazil, Russia, India and China. These economies have since had an amazing run, and have emerged as the biggest and fastest growing emerging markets. In this course, we look at the economic experiences of the BRIC countries for the past 50 years. We discuss the reasons that have contributed to their exceptional growth rates, with particular emphasis on their transformation into market economies. We also analyze the challenges that these countries continue to face in their development process.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.217. Game Theory in Social Sciences. 3 Credits.
Game Theory is the study of multiple person decision problems in which the well-being of a decision maker depends not only on his own actions but also on those of others. Such problems arise frequently in economics, political science, business, military science and many other areas. In this course, we will learn how to model different social situations as games and how to use solution concepts to understand players’ behavior. We will consider various examples from different fields and will play several games in class. The emphasis of the class is on the conceptual analysis and applications and we will keep the level of mathematical technicalities at the minimum – high school algebra and one term of calculus will be sufficient. Students who took AS.180.117 are not eligible to take AS.180.217.
Prerequisite(s): Students may not have previously taken AS.180.117, AS.180.102 or instructor permission
Area: Social and Behavioral Sciences

AS.180.221. The Informal Economy: Who Wins, Who Loses, and Why We Care About It. 3 Credits.
The informal economy is one of the most complex economic and political phenomena of our time. It exists in rich and poor countries alike, currently employs almost half of the world’s workers, about 1.8 billion people, and totals to economic activity of around $10 trillion. If the informal economy were an independent nation, it would be the second-largest economy in the world, after the United States and before China. In today’s globalizing environment, are informal economies a poverty trap or an engine of growth? Do they stimulate entrepreneurship and popular empowerment, or promote exploitation? How does an improved understanding of the size and organization of informal economies affect service provision, social policy or taxation? What are the implications of the informal economy for social cohesion and popular politics? The proposed course will address these (as well as other) questions related to the informal economy to offer students an understanding of such complex phenomenon from a variety of perspectives. The course will comprise three parts. Part 1 will explore the complexities of the informal economy, and the effects of informality on policies of inclusive growth. Part 2 will draw on empirical evidence and comparative case studies to examine informal economies in various regions, including Africa, East Asia, North and South America, and Europe, highlighting variations in activities, relations with the state, global integration and economic outcomes. Finally, Part 3 will discuss the ongoing economic policy shift from punitive measures to accepting informality as a virtual space through which citizens flow from job-seeker to compliant entrepreneurs.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.223. Economic Development in Sub-Saharan Africa. 3 Credits.
Many sub-Saharan African countries are among the least developed countries in the world. In this course, we explore the economic development experiences of African countries, with more focus on sub-Saharan Africa. The course starts with a historical perspective, delves into development strategies, and examines evidence on successes and failures of some case study countries. We conclude by analyzing the many challenges that these countries continue to face in their development process. Elements of Microeconomics and Macroeconomics are required prerequisites. There would be group presentations on assigned readings.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.228. Economic Development. 3 Credits.
A comprehensive survey of economic behavior by households, farms and firms in poor countries and the role of and for governments. Discussions include measurement of income levels, economy-wide equilibrium, sources of growth, agriculture and industry, international trade and investment, savings, population, fertility, education, health, income distribution and public finances. Applies economic theory rigorously to interpret and evaluate the economic experience of poor countries. Diagnostic test on Elements of Economics is required in the second week. Grading based on 3 exams and one paper.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

Writing Intensive
AS.180.229. Economics of Health and Education in South Asia. 3 Credits.
This course introduces students to the major ideas of modern urban economics focused on the causes and consequences of urban economic growth, urban poverty and a city’s quality of life. We will analyze basic questions such as: Why is Silicon Valley in Silicon Valley? Why did Beijing become so polluted? Why is crime high in Baltimore? Why does rich San Francisco face a homelessness challenge? The role of federal, state, and local government in urban life will be explored.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.230. Economics of Transition and Institutional Change. 3 Credits.
This course introduces students to the comparative analysis of institutions of existing capitalist systems and to the historical evolution of those institutions. By comparing the economic systems of different nations, we will try to reveal the institutional setups that either contribute or hinder economic performance. We will also examine the process of countries transforming their economies and investigate the factors that determine the differences in reforms’ outcomes between countries.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences
Writing Intensive

AS.180.231. Debates in Macroeconomics. 3 Credits.
This course covers some of the more contentious current debates in macroeconomics. Topics include: recent and proposed tax changes (are workers affected by the corporate tax?); unconventional monetary policies (have they helped?); modern monetary theory (sound doctrine or hokum?); why are interest rates so low? backlash against globalization (warranted? unprecedented?); immigration (economic bane or boon?); rising income inequality (causes? consequences? pervasiveness?); has competition waned in US markets? Students will use the tools of economics to analyze these and other pressing issues. Though definitive answers may prove elusive, sound economic analysis can shed considerable light, not least by unmasking the political biases that often drive protagonists on both sides of these debates.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.232. Economic Systems in Transition. 3 Credits.
This course studies the comparative analysis of institutions of existing capitalist systems and to the historical evolution of those institutions. By comparing the economic systems of different nations, we will try to reveal the institutional setups that either contribute or hinder economic performance. We will also examine the process of countries transforming their economies and investigate the factors that determine the differences in reforms’ outcomes between countries.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.238. Rethinking Economics After the Great Recession. 3 Credits.
The financial crisis that began in the United States in 2007 threw virtually the entire world into recession. This class will look at the causes of the crisis and at how it unfolded. It will look into the conventional wisdom of economists, circa 2006, and why that wisdom proved to be so wrong. It will examine the financial innovations that contributed to the crisis, at the reasons financial regulators were blindsided, and at the reforms enacted after the crisis.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences
Writing Intensive

AS.180.239. Urban Economics. 3 Credits.
This course introduces students to the major ideas of modern urban economics focused on the causes and consequences of urban economic growth, urban poverty and a city’s quality of life. We will analyze basic questions such as: Why is Silicon Valley in Silicon Valley? Why did Beijing become so polluted? Why is crime high in Baltimore? Why does rich San Francisco face a homelessness challenge? The role of federal, state, and local government in urban life will be explored.
Prerequisite(s): AS.180.102
Area: Social and Behavioral Sciences

AS.180.240. JHU Bologna: History of Banking. 3 Credits.
Economics course offered on the JHU Summer Program in Bologna. Permission required. Must be taken for a letter grade. Open to students on the JHU/Bologna summer program only.
Area: Social and Behavioral Sciences

AS.180.241. International Trade. 3 Credits.
Theory of comparative advantage and the international division of labor: the determinants and pattern of trade, factor price equalization, factor mobility, gains from trade and distribution of income, and theory and practice or tariffs and other trade restrictions. Recommended Course Background: AS.180.101.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.242. International Monetary Economics. 3 Credits.
This course presents International Monetary Economics theory and applies it towards gaining an understanding of recent events and current policy issues. The theory presented in this course covers a broad range of topics including exchange rate determination, monetary and fiscal policy in an open economy, balance of payments crisis, the choice of exchange rate, and international debt. The insights provided by these theoretical frameworks will enable us to discuss topics such as the global financial crisis, global financial imbalances, the Chinese exchange rate regime, and proposed changes in the international financial architecture.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.244. Market Design. 3 Credits.
We will study how the rules of a market impact behavior, and in turn whether this behavior leads to (un)desirable outcomes. We will cover how the lessons learned from both successful and failing markets have been used by economists to design new markets. It will help us address questions such as: (i) Can economics help with the shortage of donated kidneys? (ii) How should a ride share service assign cars to clients? (iii) Can changing the way school seats are assigned change the welfare of students in a city? The material is intended to be as accessible as possible, keeping the mathematical technicalities to a minimum (i.e. one-term of calculus would be sufficient).
Prerequisite(s): AS.180.102
Area: Social and Behavioral Sciences

AS.180.246. Environmental Economics. 3 Credits.
This course presents a broad overview of the key issues in modern environmental economics with a focus on understanding and solving urban pollution challenges in developed and developing nations. This course explores how cities and nations can achieve the "win-win" of economic growth and reduced urban pollution. Special attention is paid to the incentives of households, firms and governments in reducing the production of pollution. The course examines a number of pollution challenges including: air, water, noise, garbage and the global challenge of climate change.
Area: Humanities
AS.180.248. Financial Writing and Analysis. 3 Credits.
There is an immense chasm between economic and financial commentary in academic discussions and that provided by private sector analysts and the press. Some of the difference is merely semantic, but much of the difference has real substance. Academic and nonacademic commentators tend to simply write off the other as being clueless in some way. Sorting out which bits of each style of analysis are most valuable and synthesizing them into a coherent commentary is a rare and valuable skill. This is a hands-on course with a goal of building skills reading and writing commentary in financial economics. The course begins critically studying commentary regarding prominent topics in the news over the recent months and then moves to writing "explainer" pieces for publication on the Center for Financial Economics blog. Students will work in teams both analyzing commentary, and writing and critiquing the work of fellow students.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences
Writing Intensive

AS.180.252. Economics of Discrimination. 3 Credits.
This course examines labor market discrimination by gender, race and ethnicity in the United States. What does the empirical evidence show, and how can we explain it? How much of the difference in observed outcomes is driven by differences in productivity characteristics and how much is due to discrimination? How have economists theorized about discrimination and what methodologies can be employed to test those theories? What has been the impact of public policy in this area; how do large corporations and educational institutions respond; and what can we learn from landmark lawsuits? The course will reinforce skills relevant to all fields of applied economics, including critical evaluation of the theoretical and empirical literature, the reasoned application of statistical techniques, and analysis of current policy issues.
Prerequisite(s): AS.180.102
Area: Social and Behavioral Sciences
Writing Intensive

AS.180.260. Real Estate Economics and Finance. 3 Credits.
An introduction to the economic analysis of real estate markets. Various perspectives will be considered, including individual homeowners and renters, investors and financiers, and policymakers. Topics include the determinants of property valuations, financing considerations, real estate development, and analysis of real estate as an investment class. The course qualifies as an elective for the Financial Economics Minor.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.261. Monetary Analysis. 3 Credits.
This course analyzes the financial and monetary system of the U.S. economy and the design and implementation of U.S. monetary policy. Among other topics, we will examine the role of banks in the economy, the term structure of interest rates, the stock market, the supply of money, the role of the Federal Reserve in the economy, the objectives of monetary policy in the United States and current monetary policy practice.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.263. Corporate Finance. 3 Credits.
This course is an introduction to the financial management of a corporation. Students study the following broad questions. How should a firm decide whether to invest in a new project? How much debt and equity should a firm use to finance its activities? How should a firm pay its investors? How do taxes affect a firm's investment and financing decisions? What determines the value of a firm? The emphasis throughout the course is on the economic principles that underlie answers to these questions.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences

AS.180.266. Financial Markets and Institutions. 3 Credits.
Understanding design and functioning of financial markets and institutions, connecting theoretical foundations and real-world applications and cases. Basic principles of asymmetric information problems, management of risk. Money, bond, and equity markets; investment banking, security brokers, and venture capital firms; structure, competition, and regulation of commercial banks. Importance of electronic technology on financial systems.
Prerequisite(s): AS.180.101 AND AS.180.102
Area: Social and Behavioral Sciences
Writing Intensive

AS.180.280. The History and Future of the Hedge Fund Industry. 3 Credits.
The precursors to modern hedge funds began more than 50 years ago, but in the 1990s the hedge fund, or alternative investments, industry began a period of rapid growth and evolution. With growth came controversy. Some argue that hedge funds, by allowing immense amounts of capital to be rapidly and freely deployed, play a vital role in pushing prices toward the efficient markets ideal. Others claim that hedge funds may accentuate speculative price dynamics, threatening the stability of the financial sector. While many hedge funds claim to offer outstanding returns to investors, data suggest that many clients end up paying high fees for unspectacular results. This course examines these and other controversies, while tracing the history of the alternative investments industry over the last 25 years.
Prerequisite(s): AS.180.101 AND AS.180.102 AND (AS.180.266 OR AS.180.263 OR AS.180.367)
Area: Social and Behavioral Sciences

AS.180.285. Information and Investing Seminar. 3 Credits.
The course will seek to discuss and illuminate the information (news reports, industry reports, government statistics, and proprietary indicators) that investors use to make investment decisions. The course will be conducted in the framework of a weekly investment committee format wherein information is processed to maximize an investment portfolio's return to risk. Each class will be conducted in two parts. The first part will require students to share with the class information gathered from their assigned specialty (e.g.: fixed income, equities, emerging markets, commodities) and the second part will require group interaction as to what decisions need to be made to a hypothetical portfolio in order to maximize objectives. The course will require regular reading of financial and economic news as well as numerous assigned industry and academic research related to global finance. Other: this course will require quite a bit of reading and regular interaction in group discussion and with the instructor.
Prerequisite(s): AS.180.280 or permission of instructor Kevin Heerdt or Robert Barbera
Area: Social and Behavioral Sciences
AS.180.289. Economics Of Health. 3 Credits.
Application of economic concepts and analysis to the health services system. Review of empirical studies of demand for health services, behavior of providers, and relationship of health services to population health levels. Discussion of current policy issues relating to financing and resource allocation.
Prerequisite(s): AS.180.102
Area: Social and Behavioral Sciences

AS.180.301. Microeconomic Theory. 4.5 Credits.
An introduction to the modern theory of allocation of resources, starting with the theories of the individual consumer and producer, and proceeding to analysis of systems of interacting individuals, first in the theory of exchange, then to systems which include production as well.
Prerequisite(s): AS.180.102 AND (AS.110.106 OR AS.110.107 OR AS.110.108 OR AS.110.109) OR equivalent.; AS.180.101 may be taken concurrently.
Area: Social and Behavioral Sciences

AS.180.302. Macroeconomic Theory. 4.5 Credits.
The course provides a treatment of macroeconomic theory including a static analysis of the determination of output, employment, the price level, the rate of interest, and a dynamic analysis of growth, inflation, and business cycles. In addition, the use and effectiveness of monetary and fiscal policy to bring about full employment, price stability, and steady economic growth will be discussed.
Prerequisite(s): AS.180.101 and (AS.110.106 or AS.110.107 or AS.110.108 or AS.110.109); AS.180.102 can be taken at the same time as AS.180.302.
Area: Social and Behavioral Sciences

AS.180.303. Topics in International Macroeconomics and Finance. 3 Credits.
The course will review selected topics in international macroeconomics and finance. The topics for the Fall of 2019 include: financial globalization; international portfolio diversification; capital account liberalization and the choice of the exchange rate regime in emerging markets; the global financial safety net; macroeconomic adjustment in the euro area.
Prerequisite(s): AS.180.101 AND AS.180.102 AND AS.180.302
Area: Social and Behavioral Sciences

AS.180.309. Economics of Uncertainty and Information. 3 Credits.
In this course we'll discuss the theory of decision making in the face of risk, the theory of risk aversion and its applications to financial and insurance markets. Building on the theory of individual decision making under risk, we will study the economic implications of asymmetric information, the type of market failures produced by adverse selection and moral hazard problems, and the models that were advanced to analyze these problems, including incentive contracts, screening and signaling equilibria.
Prerequisite(s): AS.180.301 OR AS.180.401

AS.180.310. Economics Of Antitrust. 3 Credits.
This course explores the economic rationale for, and consequence of, antitrust laws. In addition to economic analysis we will study landmark antitrust cases.
Prerequisite(s): AS.180.301 OR AS.180.401
Area: Social and Behavioral Sciences
Writing Intensive

AS.180.312. Evaluating Public Policy: Experimental and Quasi-Experimental Research Design in Social Science. 3 Credits.
The purpose of the course is to show how experimental, quasi-experimental and non-experimental methods can be used to advance scientific knowledge about topics in economics. It will teach students the empirical techniques required to analyze experimental and non-experimental data to draw causal inference. The course will begin with a primer on the use of experimental methods in economics, specifically in the context of evaluating welfare programs and labor market policies. Students will then proceed to learn the empirical methods that can be employed to establish cause and effect, both when data is obtained through a randomized control trial (experimental data), or when randomization occurs naturally (quasi-experimental data). The tools and topics that are covered will not only be relevant to economics students, but will also be of interest to students from other social science departments.
Prerequisite(s): AS.180.301 AND (EN.550.420 OR EN.550.310 OR EN.550.112 OR EN.550.113 OR EN.550.211 OR EN.550.311 OR EN.550.430 OR EN.550.435 OR EN.550.111 OR AS.280.345)
Area: Social and Behavioral Sciences
Writing Intensive

AS.180.314. Mathematical Economics. 3 Credits.
This course traces the extent to which modern economic theory, particularly as it pertains to pure competition in market and non-market games under the rationality postulate.
Prerequisite(s): AS.180.301
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences

AS.180.315. Housing Problems and Policy: An Economics Perspective. 3 Credits.
This course uses economic theory and econometric research approaches as a lens on housing issues and policy. Housing is at the center of the effects of segregation and the Great Recession, and bears a significant connection to the labor market as well. This course briefly explores microeconomic theory specifically relevant to the housing market, then uses readings from academic social science literatures to dive deeper into these issues and others. Finally, students will examine public housing policies, using the literature and proposing statistical techniques to assess their effectiveness. The course will improve the understanding and use of basic econometric techniques with respect to policy questions as well as the ability to critically read academic literature.
Prerequisite(s): (AS.180.301 OR AS.180.401) AND (EN.550.420 OR EN.550.310 OR EN.550.112 OR EN.550.113 OR EN.550.211 OR EN.550.311 OR EN.550.430 OR EN.550.435 OR EN.550.111 OR AS.280.345)
Area: Social and Behavioral Sciences

AS.180.327. Economics of Matching Markets. 3 Credits.
Matching markets are those markets where the identities or characteristics of the agents engaged in a transaction matter, not only the price. In fact, no monetary transactions may happen at all. Examples include donated organ allocation, school choice, refugee resettlement, among others. Although the mathematical pre-requisites are low, emphasis is given to proofs; thus, some degree of mathematical/logical maturity is assumed. Evaluation consists of problem sets, presenting a summary of an academic paper in-class, and a final paper (either original research or critical literature review).
Prerequisite(s): AS.180.102; AS.180.244 AND (AS.180.301 OR AS.180.401), may be taken at the same time as AS.180.327.
Area: Social and Behavioral Sciences
AS.180.334. Econometrics. 3 Credits.
Introduction to the methods of estimation in economic research. The first part of the course develops the primary method employed in economic research, the method of least squares. This is followed by an investigation of the performance of the method in a variety of important situations. The development of a way to handle many of the situations in which ordinary least squares is not useful, the method of instrumental variables, concludes the course.
Prerequisite(s): AS.180.301 OR AS.180.401, may be taken concurrently; One semester of calculus, AS.280.345 OR EN.540.305 OR EN.553.211 OR EN.553.111 OR EN.553.310 OR EN.553.311 OR EN.553.420 OR EN.560.435 OR EN.560.348 OR EN.553.112 OR EN.540.382
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences

AS.180.336. Macroeconomic Strategies. 3 Credits.
Will sketch out a strategy for anticipating economic turning points. Business cycle basics, monetary policy/financial market real economy interactions will be reviewed. Long-term growth issues will be explored.
Prerequisite(s): AS.180.101 AND AS.180.102 AND AS.180.302 or instructor permission.
Area: Social and Behavioral Sciences

AS.180.338. Political Economy and Development. 3 Credits.
Good governance is associated with desirable outcomes across countries and societies: higher life satisfaction, greater income per capita, lower child mortality, longer life expectancy, less disease, etc. But these statistical associations in the data are not sufficient to establish either that good governance truly causes such societal outcomes, or what types of policies produce them. This course asks: What are the determinants of good governance? Is good governance "good" beyond its intrinsic desirability? If so, how? We use a data-driven approach, focusing on quantitative empirical methods and their applications to policy. The goal is to develop skills to be savvy consumers, as well as producers, of policy-relevant evidence related to issues of governance, in rich and poor countries alike. Topics will include: democracy, corruption, conflict, culture, mass media, quotas, and foreign aid.
Prerequisite(s): (AS.180.301 OR AS.180.401) AND AS.180.334
Area: Social and Behavioral Sciences

AS.180.345. Rationality: Meaning and Measurement. 3 Credits.
Economists generally work with a number of classic models of how people behave in different contexts. These models (such as utility maximization and expected utility maximization) are widely used because they are tractable and elegant, but are they also accurate models of human behavior? In this course, we examine the axiomatic foundations of these models, explore their implications for choice behavior, and discuss the empirical and experimental strategies economists have developed to test these models. The course would require you to solve mathematical problems; knowledge of mathematics up to the level of multi-variate calculus would be very helpful.
Prerequisite(s): AS.180.301
Area: Social and Behavioral Sciences

AS.180.349. Economics of Race, Gender and Culture. 3 Credits.
Economics is a quantitative social science studying general human behavior. This course will overview recent contributions in the economics of race, gender, and culture, and will introduce how economists study controversial issues on these topics. Students majoring in other social science disciplines are welcome to take this course. Another goal of this course is to make students become familiar with causal analysis tools popular in economics research. It is strongly recommended to take at least one econometrics course before taking this one, or at least taking it in the same semester.
Area: Social and Behavioral Sciences

AS.180.351. Labor Economics. 3 Credits.
The course discusses various issues in labor markets from the perspective of economic theory. We first study the major forces at work that shape labor market behavior; firms’ labor demand and workers’ labor supply. Then we discuss the equilibrium behavior of employment and wages. Using these tools, we also cover various applied topics in labor economics, such as minimum wage regulations, male-female wage differentials, human capital investment, worker mobility, and unemployment.
Prerequisite(s): AS.180.301 OR AS.180.401
Area: Social and Behavioral Sciences

AS.180.352. Public Economics. 3 Credits.
This course explores issues related to expenditure and tax policies of governments, as well as views regarding the purpose of government and criteria for evaluating government actions. The course also includes a discussion of how group or collective choices are made within society, how environmental policies affect the level of pollution, and the importance of public debt.
Prerequisite(s): AS.180.301 OR AS.180.401
Area: Social and Behavioral Sciences

AS.180.355. Economics of Poverty/Inequality. 3 Credits.
This course focuses on the economics of poverty and inequality. It covers the measurement of poverty and inequality, facts and trends over time, the causes of poverty and inequality with a focus on those related to earnings and the labor market, and public policy toward poverty and inequality, covering both taxation and government expenditure and programs. By the nature of the material, the course is fairly statistical and quantitative. Students should have an intermediate understanding of microeconomic concepts. Basic knowledge of regression analysis is also helpful.
Prerequisite(s): AS.180.301
Area: Social and Behavioral Sciences

Writing Intensive

AS.180.357. Numerical Simulations For Merger and Competition Policy. 3 Credits.
This course discusses several empirical and numerical methods used in economics and then applies them to the analysis of recent antitrust issues. Specifically, we learn estimation of demand and supply, and computation of equilibrium of oligopolistic models. Then, we apply these methods to simulating mergers, which were recently proposed or already took place in the US and Europe. We evaluate the welfare impact of these mergers. To perform these analyses, we use STATA and MATLAB, but prior knowledge of these software is not required. If time allows, we will also cover other topics in antitrust, such as detecting collusion/cartels.
Prerequisite(s): AS.180.102
Area: Social and Behavioral Sciences
AS.180.361. Rich Countries, Poor Countries. 3 Credits.
Why are some countries rich while some other countries poor? Why does a country’s income per person generally grow over time? We try to analyze these questions using the theoretical and empirical growth literature. We will study seminal growth models, and also try to explain cross-country income differences in terms of factors like geography, institutions and global integration. Knowledge of regression analysis (including instrumental variables estimation) is required.
Prerequisite(s): AS.180.302 AND (AS.180.334 OR AS.180.434)
Area: Social and Behavioral Sciences

AS.180.363. Sex, Drugs and Dynamic Optimization: The Economics of Risky Behavior. 3 Credits.
We apply the tools of economic analysis to understand behaviors that are enjoyable today, but may have negative consequences in the future.
Prerequisite(s): (AS.180.301 OR AS.180.401) AND AS.180.302; AS.180.334 can be taken concurrently.
Area: Social and Behavioral Sciences

AS.180.365. Topics in Macroeconomics. 3 Credits.
This course builds on AS.180.302 (Macroeconomic Theory) to consider the leading macroeconomic controversies of today (such as the appropriate monetary and fiscal policies of the Federal Reserve and U.S. Government). The classes will include frequent student presentations.
Prerequisite(s): AS.180.302
Area: Social and Behavioral Sciences

AS.180.367. Investment-Portfolio Management. 3 Credits.
Prerequisite(s): (AS.180.301 OR AS.180.334 OR AS.180.401) AND (EN.553.111 OR EN.553.112 OR EN.553.310 OR EN.553.311 OR EN.553.420 OR EN.553.430)
Area: Social and Behavioral Sciences

AS.180.368. Managerial Economics and Business Strategy. 3 Credits.
Seminar on quantitative concepts, decision-making, and strategy in business organizations. Overall context is ‘value’ – how it is measured and maximized long term. Microeconomic theory of the firm, competitive analysis, corporate finance.
Prerequisite(s): (AS.180.301 OR AS.180.401) AND (EN.553.111 OR AS.180.367 OR AS.180.263) or permission of the instructor.
Area: Social and Behavioral Sciences

AS.180.371. Industrial Organization. 3 Credits.
Investigation of firm behavior in markets characterized by imperfect competition. Imperfect competition lies in between monopoly and perfect competition and characterizes most major industries in modern capitalist economies. Central issues to be covered in the course include what determines the intensity of competition? What determines the extent of entry and exit? How is it that some firms consistently dominate their industries?
Prerequisite(s): AS.180.301 OR AS.180.401
Area: Social and Behavioral Sciences

AS.180.389. Social Policy Implications of Behavioral Economics. 3 Credits.
Economists increasingly incorporate insights from psychology into models of rational decision-making. Known as “behavioral economics”, this line of research considers how, for example, emotions, rules-of-thumb, biased beliefs and time-inconsistent preferences influence how we make choices. Behavioral economics increasingly pervades policy discussions on topics as diverse as: obesity, the role of media, subprime mortgages and voting patterns. Behavioral models are certainly novel, but do they help us to design superior social policies? With the goal of preparing students to address this question, this course (1) provides a thorough overview of the main contributions of behavioral economics, highlighting departures from more traditional economic models and (2) emphasizes how behavioral economic models might (or might not) improve how we think about social policy.
Prerequisite(s): AS.180.301 OR AS.180.401; AS.180.334 OR AS.180.434 can be taken concurrently.
Area: Social and Behavioral Sciences

AS.180.390. Health Economics & Developing Countries. 3 Credits.
Benefits of good health and its costs. Health demand and supply in poor countries. Welfare economics of Public Health. This is a writing seminar. There are some lectures on how to write a paper and on the substance of the economics of international health but the focus and only assignment is a 40-page paper by each student under the supervision of the instructor.
Prerequisite(s): AS.180.301 or AS.180.401; Students may not take AS.180.390 if they took AS.180.391.
Area: Social and Behavioral Sciences Writing Intensive

AS.180.391. Economics of China. 3 Credits.
Discussion of the economic experience of Post-War China, primarily emphasizing topics rather than historical narrative: agriculture, industry including corporate governance and public enterprises, international trade, population, migration, education, health, public finances among other topics. This course is writing intensive and the only assignment for the course is a 40-page paper on some aspect of the Chinese economy to be done under the close supervision of the instructor. The course is not primarily a lecture course, although there will be some lectures on how to do a paper and on the substance of the Chinese economic experience.
Prerequisite(s): AS.180.301 OR AS.180.401; Students may not take AS.180.390 if they took AS.180.391.
Writing Intensive

AS.180.401. Advanced Microeconomic Theory. 3 Credits.
This course covers roughly the same material as Microeconomic Theory 180.301 but in a more formal and mathematically rigorous way. You can use either 180.301 or 180.401 to satisfy the requirement for the economics major. 180.301 and 180.401 are offered during the same time slot, so the logistics of switching from 180.301 to 180.401 should be seamless, should you decide to make the switch. This course is suitable for those students who prefer a more formal treatment of economic theory and who are planning to take some of the more technically demanding electives in economics at a later stage. NOTE: you may not take both 180.301 and 180.401.
Prerequisite(s): You may not take both AS.180.401 and AS.180.301; AS.180.102 and any two semesters of calculus (or equivalent)
Area: Social and Behavioral Sciences
AS.180.434. Advanced Econometrics. 3 Credits.
This is a faster-paced and more intensive version of Econometrics 180.334. You can use either 180.334 or 180.434 to satisfy the requirement for the economics major. This course is suitable for those students who prefer a more technical treatment of econometric methodologies.NOTE: Students may not take both 180.334 and 180.434.
Prerequisite(s): Students may only receive credit for either AS.180.334 or AS.180.434; AS.180.301 or AS.180.401, one semester of linear algebra, one semester of calculus, AS.280.345 or EN.580.305 or EN.550.211 or EN.550.111 or EN.550.310 or EN.550.311 or EN.550.420 or EN.560.435 OR EN.560.348.
Area: Quantitative and Mathematical Sciences, Social and Behavioral Sciences

AS.180.501. Independent Study. 1 - 3 Credits.
Prerequisite(s): You must request Independent Academic Work using the Independent Academic Work form found in Student Self-Service: Registration &gt; Online Forms.

AS.180.521. Research in Economics. 2 Credits.
The assignment in this course is to complete the initial stages of research for the Senior Honors Thesis in Economics. Students will work independently under the supervision of a thesis advisor from the department. Students must discuss with their departmental academic advisor about possible thesis advisors. They should get the approval from their thesis advisor, and register for the section of the course assigned to the thesis advisor, who will also be responsible for grade reporting. Open to Senior and Junior Economics majors. Note: This course cannot be counted as one of the five elective economics courses required for the Economics major.
Prerequisite(s): You must request Independent Academic Work using the Independent Academic Work form found in Student Self-Service: Registration &gt; Online Forms.

AS.180.522. Senior Thesis. 3 Credits.
Students enrolled in this course will complete the Senior Honors Thesis under the supervision of a thesis advisor (who will have been chosen by the student prior to registration for AS.180.521). Students should register for the section of the course assigned to their thesis advisor. The thesis advisor will be responsible for submitting grades for their section. Note: This course cannot be counted as one of the five elective economics courses required for the Economics Major.
Prerequisite(s): You must request Independent Academic Work using the Independent Academic Work form found in Student Self-Service: Registration &gt; Online Forms; AS.180.521 Writing Intensive

AS.180.595. Economic Internship. 1 Credit.
Prerequisite(s): You must request Independent Academic Work using the Independent Academic Work form found in Student Self-Service: Registration &gt; Online Forms.

The mathematical theory of general static equilibrium. The course will emphasize the formal mathematical expression of economic ideas and the ability to give a loose economic intuition a coherent logical meaning. Different mathematical structures in general equilibrium theory will be isolated and discussed. The text will be Debreu's book "Theory of Value". Recommended Course Background: AS.110.106, AS.180.301, and AS.180.302 or permission of the instructor.
Area: Social and Behavioral Sciences

The course will cover decision theories relevant to economics and their related analytical tools. We aim to discuss the following topics: standard theories of firm and consumer behavior; decision making under risk; revealed preference analysis; monotone comparative statics; bounded rationality.

AS.180.603. Macroeconomic Theory I.
A comprehensive treatment of macroeconomic theory, including static analysis of aggregate output employment, the rate of interest, and the price level; aggregative theory of investment, consumption, demand and supply of money; empirical work on aggregative relationships.

AS.180.604. Macroeconomic Theory II.
First term: a comprehensive treatment of macroeconomic theory, including static analysis of aggregate output employment, the rate of interest, and the price level; aggregative theory of investment, consumption, demand and supply of money; empirical work on aggregative relationships. Second term: the macrodynamic theory of growth, cycles, unemployment and inflation, and selected subjects.

AS.180.605. Advanced Macroeconomics I.
Topics of recent research in macro-economics. Content will vary from year to year. Likely topics include implicit contract theory, search theory and unemployment, disequilibrium macroeconomic models, monetary policy and the control of inflation, contract-based rational expectations models, imperfect competition in macrodynamic models, business cycle models, empirical tests of rational expectations models, theories of investment behavior, and debt neutrality.Open to 2nd year Grad Students and up.

AS.180.606. Advanced Macroeconomics II.
Topics of recent research in macroeconomics. Prof. Ball's course covers nominal rigidities, dynamic-consistency theories of inflation, inflation inertia and the costs of disinflation, monetary policy, costs and benefits of price stability, benefits of output stabilization, alternative policy rules, measuring inflation, unemployment, efficiency-wage theories, the behavior of the NAIRU, macro in middle-income countries, high inflation and stabilization, currency crises. Prof. Carroll's course analyzes implications of the buffer-stock and habit formation theories of consumption for comovement of aggregate variables and asset pricing. The models are applied to study the phenomena of declining U.S. saving rate, the dynamic relationship between saving rates and growth, and the equity premium puzzle.
Prerequisite(s): AS.180.603

AS.180.607. Macroeconometrics I.
The course is an attempt to provide a framework for discussing the techniques that are used in macroeconomic analysis. Generally the bias that it has is one of looking at these from the perspective of someone analyzing macroeconomic data for policy analysis. Consequently, many of the applications considered are drawn from the type of research conducted in central banks and finance ministries. Its emphasis is therefore upon the issues raised by the analysis of time series of macro-economic data. Today there is an emerging literature that looks at micro-economic data as well as conducting cross-country studies. We will tend to ignore that material as the methods used in such research are essentially those of micro-econometrics, although sometimes with adjustments made to reflect the nature of macro-economic time series.
Prerequisite(s): AS.180.633
AS.180.609. Core Mathematics for Economics.
This course will develop the necessary mathematical language and tools that are to be regarded as a prerequisite for graduate study in economics at Johns Hopkins. Specifically, the course will focus on set theory, linear algebra and real analysis.
Area: Social and Behavioral Sciences

AS.180.611. Economics of Uncertainty.
This course offers a review of subjective expected utility theory of decision making under uncertainty and choice based subjective probabilities. It also explores the motivation for the recent developments of non-expected utility theories under risk and under uncertainty. It examines the role of completeness and awareness in these theories as well as the theories of menu choice and random choice behavior.
Area: Social and Behavioral Sciences

This course traces the extent to which modern economic theory, particularly as it pertains to pure competition in market and non-market games under the rationality postulate, is grounded in the language of probability and measure theory. Special attention will be paid to the formal expression of ideas such as economic and numerical negligibility, on the one hand, and diffuseness and conditional independence of information, on the other. Towards this end, the course will develop rigorous formulations of basic ideas of (conceptual rather than computational) probability and apply them: first, to develop the fundamental theorems of welfare economics, including the core theorems; and second, to large anonymous and non-anonymous games as well as to finite-agent games with private information. The course will be self-contained from the technical point of view but will presuppose a level of mathematical maturity that ought typically to be achieved by taking courses such as AS.180.615 and AS.180.601

AS.180.622. Game Theory.
The topics covered include solutions concepts such as dominance, rationalizability, Nash equilibrium, correlated equilibrium, subgame perfect equilibrium and Perfect Bayesian equilibrium. We will discuss both static and dynamic games and games of complete and incomplete information.
Prerequisite(s): AS.180.623
Corequisite(s): AS.180.623
Area: Social and Behavioral Sciences

AS.180.623. Economics of Information.
The course introduces the economic issues associated asymmetric information and analyses the institutions and mechanisms designed to mitigate the resulting inefficiencies. Topics include: Adverse selection; moral hazard; incentive contracts; and mechanism design.
Prerequisite(s): AS.180.600 AND AS.180.601
Corequisite(s): AS.180.622
Area: Social and Behavioral Sciences
Writing Intensive

AS.180.626. Computational Methods.
This class will introduce students to the computational tools that are used to get things done in scientific research. Such tools include, but are not limited to, unix bash shell scripting, LaTeX/Beamer, virtual machines, git and github, tools for parallel computation, cloud services, and others. Brief treatments of special-purpose tools (like Mathematica for symbolic math) will conclude this part of the class. After this introduction, the course will involve an intensive introduction to the use of the Python language for scientific computation purposes, including a discussion of why Python dominates other choices like Matlab and Julia. The final third of the course will apply the tools in a practical application to a specific problem identified jointly between the instructor and the student. There is no required text; readings will be assigned in class. (The characteristic that distinguishes this class from alternatives is that this class will not teach specific algorithms nor frontier computational techniques; rather, it aims to expose students to a broad set of tools that they will use regularly thereafter).
Area: Social and Behavioral Sciences

AS.180.632. Topics in Applied Microeconometrics.
This course teaches methods for using micro-data to recover structural parameters of microeconomic models. We cover static models, but focus largely on single-agent dynamic programming, including “full solution” methods along with innovations that permit circumvention of daunting computational tasks. Additional topics will be partially based on students’ interests, but will likely include: general equilibrium models, static and dynamic games, matching models, unobserved heterogeneity, structural methods with experimental data and biased expectations. The goal is to teach students to use structural methods in their own research, and so we will delve into the nuts and bolts of structural work, examining how researchers actually get from raw data to results. This includes: how the sub-sample for analysis is chosen, how the model is specified, how the programming problem is solved, which moments are generated, how these are matched to the analogous moments in the data and, importantly, how identification is established.

Mathematical models of economic behavior and the use of statistical methods for testing economic theories and estimating economic parameters. Subject matter will vary from year to year; statistical methods, such as linear regression, multivariate analysis, and identification, estimation and testing in simultaneous equation models, will be stressed.
Prerequisite(s): AS.180.636

AS.180.634. Panel Data Models & Applications.
This course is a reading course for the panel data models in the economics department. We will focus on econometric theories that are commonly used in panel data analysis, although many of these techniques can be applied to other areas as well. In addition, we will discuss applications of these theories. The course material will start form chapter 10 & 11 in Wooldridge’s book which covers linear panel data models. And then we discuss the discrete choice models from chapter 7 of Hsiao’s book. After these, we will try to read papers related to panel data models.

AS.180.636. Statistical Inference.
Theory and applications of statistical inference. Topics include probability and sampling, distribution theory, estimation, hypothesis testing, and simple regression analysis. Statistical applications will be drawn from economics. Limited to graduate students in Economics except by permission of the chair. Recommended Course Background: AS.110.201, AS.110.302
AS.180.637. Microeconometrics I.
This is an advanced graduate course on major econometric techniques and models that are used in empirical microeconomics. We will cover topics like extremum estimators, empirical process, quantile regression, plugin estimator, Bootstrap, weak Instrumental variables, MCMC, and partial identification in this course.
**Prerequisite(s):** AS.180.601 AND AS.180.622 AND AS.180.633 AND AS.180.636

AS.180.638. Microeconometrics II.
This course is the second in the microeconometrics sequence in the Economics Department. It will introduce a selection of models and techniques that are useful when a researcher wants to estimate a structural model, i.e. a model derived from economic theory. Structural models that try to incorporate restrictions derived from economic theory are used in empirical IQ, but also in quantitative marketing research, labor economics and other fields that consider individual decision making. No attempt will be made to be comprehensive. Instead we will focus on a few areas that have been well-researched in recent years: dynamic discrete choice, microeconomic models with latent variables, program evaluation, the empirical analysis of auctions and noneparable models. Some topics will be included only if time permits. The models and methods developed for these areas are relevant for other cases. The emphasis is on the interaction between economic theory and econometrics. Basic issues are specification and (nonparametric) identification, computational problems and the use of simulation, semiparametric estimation to avoid functional form and distributional assumptions that cannot be derived from economic theory.
**Prerequisite(s):** AS.180.601 AND AS.180.622

This is a graduate course in international trade. It will develop basic analytical tools and frameworks used in the general equilibrium analysis of international trade. Recent research topics will be discussed in the second half of the course.
**Prerequisite(s):** AS.180.601 AND AS.180.603

AS.180.642. International Monetary Economics.
A link between the balance of payments and asset accumulation/demulation, microeconomics of international finance and open-economy macroeconomics. The section on open-economy macroeconomics covers approaches to balance-of-payments adjustments, theories of exchange rate determination and monetary, fiscal, and exchange-market policies under fixed and flexible rate regimes.

AS.180.643. Topics of Game Theory.
This course covers topics such as repeated games, dynamic games, bargaining and strategic communication.
**Prerequisite(s):** AS.180.622
Area: Social and Behavioral Sciences

AS.180.644. Topics in Economic Theory.
The course will cover matching markets, which typically deal with assignment problems with and without the use of transfers. Examples of these include school choice, course allocation, and organ exchange. We will cover the theoretical underpinnings, field applications, and empirical evaluations of these markets.
Area: Social and Behavioral Sciences

AS.180.646. Revealed Preference and Comparative Statics.
The overall theme of this course is the observable implications of optimizing choice. We will cover the theory of monotone comparative statics and supermodular games. We also discuss results in the revealed preference literature, such as Afriat’s Theorem, that deal with the consistency of data with different canonical models. The course is useful to students doing research in pure or applied theory, where comparative statics tools/insights are often needed for model building. It could also be interesting to those with an empirical focus who would like to know more about revealed preference approaches to testing models and drawing inferences from them.
Area: Social and Behavioral Sciences

This course studies the theory of asset trading in which agents hold different information and/or beliefs. Foundational papers as well as recent ones will be covered, with applications both within and outside of Finance. Topics include: information aggregation via prices; rational expectations equilibrium; market micro-structure; large auctions; herding information cascades/price bubbles; dynamic models and learning.
Area: Social and Behavioral Sciences

AS.180.648. Topics in Applied Microeconomics.
This course will cover popular research designs in applied microeconomics, from reduced-form approach to structural estimation. The first half of this course will be devoted to studying methodologies in reduced-form approach and the second half will be about structural estimation. Students must be familiar with at least one programming language of own choice (python, matlab, R, Julia, Fortran, C/C++) and statistical package (STATA, R) to solve problem sets in this course. The course will introduce various papers related to unobserved heterogeneity in applied microeconomics literature. Basic programming skills are needed for dynamic programming in this course.
**Prerequisite(s):** AS.180.600 AND AS.180.601
Area: Social and Behavioral Sciences

This course will introduce structural approach in applied microeconomics, with emphasis on models including endogenous unobservable heterogeneity. The first half of this course will cover popular estimators, such as simulated method of moments, indirect inference, conditional choice probability estimator. The course will cover both single agent problem and multi-agents problem, potentially including endogenous unobservable heterogeneity. The second half of this course will discuss multiple decision maker problem, so-called collective model, and family formation and dissolution model, and cultural economics.
Area: Humanities

AS.180.651. Labor Economics I.
Theories of the allocation of time and supply of labor, human capital, demand for labor, market equilibrium, and income distribution. As time allows, other topics, such as unemployment, unions, and compensating differences are discussed. Corequisite: AS.180.601

AS.180.661. Bayesian Methods and Machine Learning in Macro and Finance.
This course is composed of two parts. In the first half, we will cover an introduction to Bayesian methods and standard methods as Metropolis, Metropolis-Hasting, Gibbs sampling, etc. We will then review the relation between Bayesian methods and machine learning. In the second part, we will study how Bayesian methods and machine learning have been used in the macro and macro-finance literatures to handle DSGE’s, VAR’s, Markov-switching-VAR’s, Time-Varying VAR’s, textual analysis, forecasting, etc.
Area: Social and Behavioral Sciences
AS.180.662. Asset Pricing.
This course is an introduction and guide to the most important issues in asset pricing. It begins with classic concepts such as the Capital Asset Pricing Model and the Arbitrage Pricing Theory and continues through continuous-time dynamic no-arbitrage models. It covers both basic theory and classic empirical research. Recommended Course Background: AS.180.604, AS.180.633, AS.180.636 or instructor’s permission.

AS.180.672. Industrial Organization.
First term: This course covers methods in applied empirical Industrial Organization. The focus will be on the use of econometric analysis and data both for descriptive and measurement purposes, and to test the predictions of economic theories. The course will cover demand estimation, cost and production function estimation, and estimation of auction models. Second term: The emphasis in this course is on empirical analysis of firm behavior. The first part of the course focuses on models of the internal organization of the firm. The second part considers empirical analysis of firm behavior in markets, with an emphasis on the “new industrial economics.”

Prerequisite(s): AS.180.601

AS.180.673. Advanced Economics of Labor.
This course is for graduate students at the 3rd year and above who wish to participate in a semester in-depth readings and discussion topics in labor economics and in econometric methods typically used in labor economics and in many other applied microeconomics fields. Students will have to participate in discussions of materials in each class. The topics covered in each semester are partly a function of student interest and their dissertation topics.

Area: Social and Behavioral Sciences

AS.180.690. Advanced Econometrics.
Advanced econometric techniques are often essential to innovative empirical work, but finding and implementing the right methods for a particular problem poses formidable challenges. This course/seminar aims to address these challenges by combining lectures and discussions of foundational econometric methods in areas of student interest (whether those interests be specific for thesis work or more speculative) with examples of implementation, including software development, in more of a ‘workshop’ environment. The emphasis will be on drawing on the resources of econometric theory to address specific empirical issues while at the same time developing implementation skills.

This is a weekly seminar series that brings in speakers from other universities to present their research in the field of applied microeconomics. Graduate Students only.

Writing Intensive

This is a seminar series devoted to the presentation of research in microeconomic theory, typically by speakers from outside the department. Graduate students only.

This course features lectures by economists from other universities. They present research findings at the frontier of the field. Graduate students only.

The purpose of this seminar is to train students to do research in economics. This course is for second year graduate students in the PhD program in Economics. For Graduate Students Only.

AS.180.698. Research/Teaching Practicums.
The purpose of the Ph.D. program in economics is to train students to teach and to do research in economics. This course is for graduate students in the Ph.D. program in economics to obtain graduate credit for work off campus that provides training and the development of skills in teaching and/or research. Before the practicum is begun, the graduate student must identify a sponsoring faculty member or seek permission from the student’s faculty adviser. The faculty member or adviser must sign a form that certifies that graduate credit will be granted, verifies the nature of the work to be performed by the student, and explains how the practicum helps to fulfill a degree requirement. Once completed, the sponsoring faculty member or adviser submits a grade of pass or fail for the student. The course may be used for curricular practical training. Economic majors/Graduate students only.

This course is for students working on the dissertation for the Ph.D. in Economics. It is graded pass-fail.

Area: Social and Behavioral Sciences

Writing Intensive

AS.180.899. Independent Study.

Cross Listed Courses

Asian Studies
SA.755.720. Asia in International Finance. 4 Credits.
Examines the evolution of the financial systems of Japan and China from 1980 to the present, including structure, regulation, and functioning of these markets in domestic, regional and international contexts. National context includes an in-depth review of the structure and operation of the financial markets of Japan and China, including: the key participants, the governmental and regulatory institutions that supervise them, various financial crises in each country with a focus on causes and solutions, reforms over time with a particular focus on liberalization of the financial system and related issues such as corporate governance and legal and accounting issues, the fiscal/monetary processes and policies in each country that affect the financial system, and the historical, political and social factors that affect institutions and policy. Regional context includes the Asian Financial Crisis, the structural causes, the roles of Japan and China, the IMF response and the various proposals to create regional solutions to future crises; roles of regional financial institutions (ADB, AIIB); China’s Belt and Road Initiative and the degree/desirability of financial integration in Asia. The international perspective focuses on the geopolitical/geo-economic implications of the structure and regulation of financial markets. Current events/topics in finance relevant to the course are covered and students are encouraged to propose such topics for discussion. Taught by a SAIS alumna with 30 years of investment banking and private equity experience in Asia and the US. Students wishing to take the class but lacking the prerequisites should email Professor Talarico at gtalarico@jhu.edu for permission to enroll.

Prerequisite(s): Students may not register for this class if they have already received credit for SA.760.742[C]; SA.300.701[C] or SA.300.706[C] or SA.310.701[C] or SA.300.708[C] or SA.300.852[C] or SA.310.719[C] or OR SA.380.722[C] or OR SA.380.760[C]

Canadian Studies Program
SA.840.712. Dynamics of Commodity Economies. 4 Credits.
Examines the pluses and minuses of small open economies that are commodity exporters, with the Canadian case study as the pivotal focus. Uses developing and other developed commodity exporters to contrast and compare. (This is a cross-listed course offered by the Canadian Studies Program that also can fulfill a requirement for the Latin American Studies Program.)
SA.840.715. Economics Of Immigration. 4 Credits.
Examines the economic causes and consequences of international migration. The central focus is an economic analysis of the general patterns of population flows, their determinants and their impact. Analyzes these primarily within the context of the North American experience, although also considers other case studies. Includes consideration of the Canadian experience, in that Canada is both a significant receiving and sending country. Prerequisite: Microeconomics or Accelerated Microeconomics. (This is a cross-listed course offered by the Canadian Studies Program that also can fulfill a requirement for the International Economics Program and the Latin American Studies Program.)
Prerequisite(s): Students may not register for this class if they have already received credit for SA.840.714(C).

China Studies
SA.750.742. China's Economy: Reforms, Performance, and Challenges. 4 Credits.
By some measures, China now has the world's largest economy. By any measure, China has contributed more to global economic growth over the past decade than any other country. Yet recent and ongoing developments have led to considerable pessimism regarding China's ability to transition to a high income economy. How can we explain China's rapid growth over the past four decades? Is this recent pessimism justified, and, if so, what must China do to avoid getting stuck in a middle income trap? Focusing on these questions, this course aims to help students develop a deeper understanding of the Chinese economy.

SA.750.744. China's Growing Global Economic Influence. 4 Credits.
China has come to play an increasingly influential role in global trade, finance, and economic governance. This course will analyze China's global economic influence through an analysis of issue areas (supply chains, regional integration, currency internationalization), global initiatives (OBOR, AIIB), and regional impacts. In addition to describing China's role in the global economy, the course will also focus on the domestic economic pressures that have influenced China's global behavior and the costs/benefits to China's domestic economy from its increasing global exposure.

Energy, Resources Environment
SA.680.851. Environmental and Natural Resource Economics. 4 Credits.
This course will give a broad overview of how economists think about environmental issues and translate it into policy applications. The class will be divided in three parts. Part I will cover ways in which markets fail to efficiently allocate resources in the presence of environmental externalities like pollution, along with policies to correct those failures. Part II will focus on the inefficient allocation of natural resources when property rights are poorly designed. Part III will provide an overview of the role of private actors in environmental sustainability. The objective of this course is to stimulate critical thinking about environmental challenges and solutions.<a href="http://bit.ly/2bc20Uv" target="_blank">Click here to see a video introduction for the course.</a>
Prerequisite(s): SA.300.699(C) OR SA.300.700(C) OR SA.999.699(C) OR SA.999.700(C)

History
AS.100.442. The Intellectual History of Capitalism, 1900 to present. 3 Credits.
This course examines shifting understandings of the philosophical foundations, political implications, and social effects of the market economy since the early twentieth century.
Area: Humanities, Social and Behavioral Sciences
Writing Intensive

Interdepartmental
AS.360.247. Introduction to Social Policy and Inequality: Baltimore and Beyond. 3 Credits.
This course will introduce students to basic concepts in economics, political science and sociology relevant to the study of social problems and the programs designed to remedy them. It will address the many inequalities in access to education and health care, unequal treatment in the criminal justice system, disparities in income and wealth, and differential access to political power. The focus will be on designing effective policies at the national and local level to address these pressing issues. This course is open to all students, but will be required for the new Social Policy Minor. The course is also recommended for students who are interested in law school, medical school, programs in public health, and graduate school in related social science fields. This course does not count as one of the required courses for the Economics major or minor, but it is required for the Social Policy Minor. Cross list with Sociology, Economics and Political Science. Freshman, Sophomore and Juniors only.
Area: Social and Behavioral Sciences
Writing Intensive

AS.360.528. Problems in Applied Economics. 2 Credits.
This course focuses on a monetary approach to national income determination and the balance of payments. Money and banking, as well as commodity and financial markets, are dealt with under both central banking, as well as alternative monetary regimes. Particular emphasis is placed on currency board systems. Students learn how to properly conduct substantive economic research, utilizing primary data sources, statistical techniques and lessons from economic history. Findings are presented in the form of either memoranda or working papers of publishable quality. Exceptional work may be suitable for publication through the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise. Advanced excel programming skills are required and students are expected to be pre-screened for research at the Library of Congress in Washington, D.C.. Bloomberg certification is a requisite.
Prerequisite(s): You must request Independent Academic Work using the Independent Academic Work form found in Student Self-Service: Registration &gt; Online Forms.
Writing Intensive
International Development

SA.400.774. Financial Crises, Emerging Markets and Policy Dilemmas. 4 Credits.
This course addresses policy issues in emerging markets with a particular focus on financial crises and their implications. Over the last several years, we have witnessed a number of episodes of financial distress often leading to macroeconomic chaos, particularly in emerging markets. Financial fragility and market distress can come in many forms: Currency crises, banking crises, debt crises, or a mix of two or more of these crises. The purpose of this course is to provide students with frameworks and tools for analyzing the causes and consequences of financial fragilities and crises, as well as the policy responses they entail. To this end, the course will mix economic theory, country experiences, and actual policy responses to provide an in-depth understanding of the boom-bust cycles characteristic of emerging market economies. The course will also address the 2008 financial crisis, drawing on aspects that make this particular episode stand out from previous instances of turmoil. Emerging market policy responses to the 2008 crisis, as well as the effects on these countries of unconventional policy stimulus adopted by developed economies will also be discussed.

Prerequisite(s): (SA.300.699[C] OR SA.300.700[C] OR SA.310.700[C] OR SA.999.699[C] OR SA.999.700[C]) AND (SA.300.708[C] OR SA.300.852[C])

SA.400.794. Public-Private Partnerships: Creating Public Value in Economic and Social Infrastructure. 2 Credits.
The course has been designed to help students understand what public value can be created and what complex public policy problems can be addressed by employing the techniques and structures used in public-private partnerships (PPPs). Public-Private Partnerships are collaborative structures supported by public, private and other partners who agree to share risks, resources and decisions in building and implementing certain projects. PPPs address issues with financing, operational capacity, and human capital requirements. The parties to a solution may share motivations to create public value by addressing a particular problem but may not agree on how it should be addressed, by whom, at what risk, and for what incentives. The course will discuss how economic and social PPPs can improve a country’s competitiveness. While economic PPPs are created to address strategic economic development goals, social PPPs focus more on assets that lack adequate revenue sources and require subsidies. The skills needed to effectively develop economic and social PPPs include negotiation, political management, innovation, and financial structuring. Case studies and readings will be used to illustrate the wide spectrum of situations and challenges associated with managing PPPs and the types of issues that will benefit from PPPs in international development. This is a 2 credit class to be paired with Development Finance.

Prerequisite(s): SA.380.760[C]. Students may not register for this class if they have already received credit for SA.400.756[C].

SA.400.795. Venture Capital and Impact Investing in Emerging Markets. 2 Credits.
This class will thus focus on the intersection of venture capital and impact investing, on this newer asset class for emerging markets, and its specific application in the service of consciously creating impact. Given the roots of the early success stories in impact investing in the financial services sector, this class will focus primarily (although not exclusively) on financial inclusion, as it helps to demonstrate the progression of one impact investment sector that has had both early stage VC support and multiple exits. Financial inclusion also offers an ideal laboratory because it offers a service typically provided by private sector entities (albeit to fewer people than it should) and has been the source of entrepreneurs pursuing pro-poor innovations for decades, led and supported by Grameen, Accion, Women’s World Banking, Opportunity International, and many others who pioneered microcredit. But the course will go well beyond the field’s microcredit roots and explore what is happening on the frontier in the fintech revolution, as significant portions of the financial services sector begin to digitize and financial services increasingly are delivered via mobile phones. As such, this focus on financial inclusion will, in turn, highlight the power of investing and value creation in many of the newest pro-poor sectors.

Prerequisite(s): SA.380.760[C] OR SA.380.778[C]

SA.400.796. Financial Inclusion. 2 Credits.
There are 3 billion people around the world that are left out of the formal financial system. The financial excluded, many of whom are low-income, do not have access to the products they need to live financially stable lives and to take advantage of opportunities. They may not have access to a safe savings account, credit to build their business, or insurance in the case of a health emergency. The delivery of quality financial services (loans, savings, insurance, money transfers) at affordable costs to all segments of society is, accordingly, an important policy goal in closing the income gap and improving quality of life. This course is an introduction to financial inclusion with a deeper dive into key questions that are driving the future of how we create more equitable financial systems for the poor. We will hear from several guest lecturers who are considered experts within their fields and who bring first-hand experience in a range of topics – from managing a large-scale operation to offering digital products to assessing investment opportunities from a venture capital perspective. There is one final project in the course, in which groups of students will present their vision for a new financial inclusion business, informed by a set of core practical and ethical questions related to the industry. Each class will allow students to explore a key question, and will include: How to design products and services for low-income customers? How to use data responsibly? How are you licensed and how do you engage with regulators? How do you price your products and raise funding? How do you address concerns about consumer protection and responsible lending practices for the poor? This course is complementary to SA.400.724.01 Venture Capital and Impact Investing offered as a two-credit course in the first half of the Spring semester.
SA.400.819. Financial Sector Developments and Reform in Emerging Markets. 4 Credits. 
Explores developments and policy issues in the financial structures of selected emerging-market economies, including the functioning of the bond market, the equity market and the banking system; the role of central banks and official oversight; and issues of information, corporate governance, privatization, risk management and legal foundations. Prerequisites: Microeconomics or Accelerated Microeconomics and Macroeconomics or Accelerated Macroeconomics. (This is a cross-listed course offered by the International Development Program that also can fulfill a requirement for the Latin American Studies and International Economics programs.)
Prerequisite(s): SA.300.701[C] OR SA.300.706[C] OR SA.999.701[C] OR SA.300.699[C] OR SA.300.700[C] OR SA.999.699[C] OR SA.999.700[C]

International Economics
SA.300.700. Microeconomics. 4 Credits. 
Theory of decision-making under conditions of scarcity and uncertainty. Analyzes choice and demand, production, cost, the firm and market structure, market failure and uncertainty. Emphasizes economics efficiency and application of theory to decisions and policy problems. Introduces game theory. Taught at the intermediate level and includes a mathematics tutorial for basic calculus skills. The course meets more frequently than other courses. Together with Macroeconomics constitutes the foundation for all other economics courses at SAIS. MA students may not audit.

SA.300.707. International Trade Theory. 4 Credits. 
Considers the theory and practice of international trade and investment. First part of the course examines the cause of trade, the sources of the gains from trade and the domestic and international distribution of those gains. Second part examines the instruments and consequences of trade policy measures, especially tariffs and quantitative restrictions. Addresses preferential trade agreements and the practice of trade policy. Prerequisite: Microeconomics or Accelerated Microeconomics. MA students may not audit.
Prerequisite(s): SA.300.699[C] OR SA.300.700[C] OR SA.300.704[C] OR SA.999.699[C] OR SA.999.700[C]

SA.300.708. International Monetary Theory. 4 Credits. 
Covers the basic theory underlying the international monetary system. Topics include international financial markets and the macroeconomics of open economies; balance of payments and the trade balance; exchange rates and the foreign exchange market; expectations, interests rates and capital flows; central banking and monetary policy in open economies; exchange rate regimes; and macroeconomic policy in open economies. Prerequisite: Microeconomics or Accelerated Macroeconomics. MA students may not audit.
Prerequisite(s): SA.300.701[C] OR SA.300.706[C] OR SA.999.701[C] OR SA.300.701[C]

SA.300.713. Game Theory. 4 Credits. 
Traditional economic theory tends to avoid interactive influences among decision-makers. Game theory focuses on analyzing the effects of interaction among individuals and groups with competing and conflicting goals. The course covers cooperative and noncooperative game theory, explaining the nature and selection of pure and mixed strategies, the various equilibrium concepts used and the theory’s relationship to traditional optimization analysis. Draws examples from microeconomic theory, international trade and trade policy, arms control, international relations as well as other fields. The course is self-contained with respect to mathematics content. Prerequisite: Microeconomics or Accelerated Microeconomics.
Prerequisite(s): SA.300.699[C] OR SA.300.700[C] OR SA.999.699[C] OR SA.999.700[C] OR SA.310.700[C] OR SA.100.303[C]

SA.300.728. Public Sector Economics. 4 Credits. 
Recreated to change code; moved from 380.737;

SA.300.739. European Economic Integration. 4 Credits. 
Created new to have correct code (was 380.733);

SA.300.736. Organization and Regulation of Infrastructure. 4 Credits. 
The course provides a comprehensive treatment of policy issues arising in the organization and regulation of infrastructure ranging from regulation of market structure, choices of ownership (and partnerships) and regulation of market conduct to implications for finance. Most examples are drawn from telecommunications, electricity, transport and water. A multitude of country cases (including current policy debates) from across the globe demonstrate how basic principles interact with politics to yield a plethora of institutional incarnations and insights into variants of “state capitalism” at work. Prerequisites: Microeconomics
Prerequisite(s): SA.300.699[C] OR SA.300.700[C] OR SA.999.699[C] OR SA.999.700[C] OR SA.310.700[C]

SA.300.740. Enterprise and Development. 4 Credits. 
The course covers the major debates around “private sector development” – the interplay between markets, firms and government policy, arguably the main driver of economic development. Fundamental are institutional settings that allow co-operation to function, while allowing competition at the same time. Special topics include the role of informal market, and that of small and medium enterprises. Approaches to inclusive business models including impact investment are debated as well as the relationship between enterprise and values (corporate governance, corporate social responsibility, not-for-profit firms) including measurement approaches targeting social and environmental impact.
Prerequisite(s): SA.300.699[C] OR SA.300.700[C] OR SA.999.699[C] OR SA.999.700[C]

SA.300.743. Advanced Topics in Trade Theory. 4 Credits. 
A rigorous seminar on international trade and commercial policy covering a broad set of policy-oriented topics. Covers both theory and applications, but emphasizes tools and analytical techniques rather than case studies. Overall goal is to develop a broad conceptual understanding of ongoing issues in international trade and familiarity with the analytical techniques used by economists in developing policy recommendations. Prerequisite: International Trade Theory or Accelerated International Trade Theory.
Prerequisite(s): SA.300.707[C] OR SA.300.851
SA.300.744. Advanced International Macroeconomics. 4 Credits.
This is an advanced course on open economy macroeconomics. The main purpose of the course is to cultivate and develop the ability to use formal theoretical models to interpret and understand the complex economic reality around us. Topics include current account determination, the relationship between saving and investment, imperfections in international capital markets, insurance mechanisms, the role of the real exchange rate, and fiscal policy. Prerequisite: International Monetary Theory or Accelerated International Monetary Theory
Prerequisite(s): SA.300.708[C] OR SA.300.852[C] OR SA.100.304[C]

SA.300.748. Creating Markets in Infrastructure - Electricity and Beyond. 4 Credits.
This applied microeconomics course lays out ways to introduce competition across all infrastructure sectors (telecom, energy, transport, water). A deep dive into electricity markets brings out the core challenges, covering: market structure regulation and market design for operations and investment in generation as well as transmission and distribution; competition policy; the integration of renewables into electricity grids and the concept of smart grids. Access pricing principles for telecommunication systems conclude with an overview of the net neutrality debate.
Prerequisite(s): SA.300.699[C] OR SA.300.700[C] OR SA.310.700[C] OR SA.999.699[C] OR SA.999.700[C]

SA.300.749. International Trade Policy. 4 Credits.
This course is designed to familiarize students with some of the major trade policy issues that countries face today. While theory and applications will both be covered, emphasis will be placed on tools and analytical techniques rather than on case studies. Topics covered include the analysis of alternate trade policy instruments, links between trade policy, exchange rates and trade outcomes, optimal policy interventions with market failures, market structure and trade policy, trade and labor markets, the political economy of trade policy, preferential trade agreements (such as NAFTA and the European Union), the design of the world trading system and the numerous challenges it currently faces. Prerequisite: International Trade Theory. Calculus and Econometrics are desired, but not necessary.
Prerequisite(s): SA.300.707[C] OR SA.300.851[C] OR SA.310.707[C] OR SA.100.303[C]

SA.300.750. International Economic Policy. 4 Credits.
This course examines macroeconomic policy in open economies. After covering the basic theoretical foundations on how monetary and fiscal policy should be conducted over the business cycle, we will analyze how such policies are actually conducted in practice and explore why. This is a hands-on course where students will be asked to gather data and perform an empirical investigation on how macroeconomic policies are carried out in their home countries.
Prerequisite(s): SA.300.708[C] OR SA.310.724[C] OR SA.300.852[C]

SA.300.761. Macroeconomic Risk and International Finance. 4 Credits.
This course highlights the economic sources of risk in the international arena. Different economies interact by trading goods and services and by exchanging progressively larger capital flows. In the age of globalization, the economic interdependence of countries generates highly novel challenges: exchange rates are not determined solely by capital movements, but also by the evolution of governance in the international monetary system — a system in which the Eurozone, the newest currency union, is emerging as a global and volatile player. The course develops a rigorous analysis of the different arrangements in the international financial system and their effects on trade direction and intensity and international capital flows. This approach allows us to address some of the most relevant sources of uncertainty in international economics: the future of gains from trade while new trade agreements are being discussed, the benefits of currency unification and the risks for sovereign debt, the heated debate regarding the relationship between global imbalances and the financial crisis of 2007-08 while capital accounts are becoming progressively liberalized.

SA.300.851. Accelerated International Trade Theory. 4 Credits.
Topic coverage is similar to that of the standard International Trade Theory course, but uses advanced analytical techniques and requires some calculus. Considers the theory and practice of international trade and investment. First part examines the cause of trade, the sources of the gains from trade and the domestic and international distribution of those gains. Second part examines the instruments and consequences of trade policy measures, especially tariffs and quantitative restrictions. Addresses preferential trade agreements and the practice of trade policy. Prerequisite: Microeconomics or Accelerated Microeconomics. MA students may not audit.
Prerequisite(s): SA.300.700[C] OR SA.300.699[C] OR SA.300.704[C] OR SA.999.700[C] OR SA.999.699[C]

SA.300.852. Accelerated International Monetary Theory. 4 Credits.
Addresses topics similar to those of International Monetary Theory, but makes greater use of quantitative methods and covers the material more rapidly and deeply. Emphasizes developing a familiarity with the tools and analytical techniques used by economists in making policy recommendations. Covers the basic theory of international macroeconomics. Main objective is to develop an understanding of the workings of the international monetary system and a conceptual framework for analyzing macroeconomic policy in an open economy. Prerequisite: Microeconomics or Accelerated Macroeconomics. MA students may not audit.
Prerequisite(s): SA.300.701[C] OR SA.300.706[C] OR SA.999.701[C]

SA.320.715. Theories & Models of Econ Development. 4 Credits.
The course intends to familiarize students with key economic concepts underlying the basic process of economic growth and development and to familiarize students with some of the prominent theories and models associated with this debate. The course will examine (i) why countries grow and develop (and other don’t); (ii) the barriers to economic growth in poor countries; (iii) how these barriers can be overcome. In addition to standard approaches to economic development, the course looks at human capital and institutions as components in the growth process and briefly assesses the impacts of development aid on economic growth. An important feature of the course is to help students apply theoretical concepts studied in class to particular developing countries. For this purpose each student will select one developing country and practice the application of conceptual approaches discussed in class. Prerequisites: Macroeconomics, Microeconomics, statistics desirable. Class size: max. 25 students.
SA.320.724. Introduction to Economic Development. 4 Credits.
Covers the main patterns of economic growth and development since the mid-19th century. Highlights the most significant ideas behind economic growth, with emphasis on those that came to the fore in the second half of the 20th century, the so-called development theories. Also describes the salient characteristics of underdeveloped countries today. This is an introductory course, without prerequisites, and is appropriate for students without prior course work in development.

SA.320.729. Asian Economic Development. 4 Credits.
Over the past three decades, Asia has been the most dynamic region in the world. In fact, during much of this period, Asia was able to grow while other developing regions (and some developed countries) stagnated. What were the sources of this economic success story? Is there an "Asian economic model" and is it "exportable"? What does the Asian Financial Crisis of 1997-98 teach us regarding the shortcomings of the East Asian policy experience? In what ways has Asian been developing as a region, i.e., through regional economic integration initiatives, and how far can the "East Asian Vision" of a common economic space go? In this class, we will endeavor to address these as well as other questions. In doing this, you will probably find that we will raise more questions than we will answer. But the Asian development experience is a complicated one, and one which often defies generalizations. Our focus will be on East Asia; however, we will also be discussing issues of South Asian development, albeit mostly in a comparative context.

SA.320.735. Topics in Development Economics. 4 Credits.
This is an advanced seminar-style (discussion) course that will dive deeply into a selection of active areas of research in the development economics literature. It can be thought of as a successor course to my introductory course survey course Economic Development (SA.310/320/744), although that course is not strictly a prerequisite. Each week we will read 2-4 related papers on a topic where there is an ongoing debate both in the academic literature and in policy circles. Examples include the impacts of foreign aid, industrial policy, the role of culture in economic development, and the economics of urbanization in LMICs. As an advanced course, the purpose of this class is to help students develop the skills to critically engage with any literature in development economics. It is targeted to advanced masters students wanting to go deeper into the literature, doctoral students in related fields, and anyone looking to learn more about how to closely read economic research. It will be particularly useful for those considering going on to a PhD or otherwise considering a career in research, although it will also make those more interested in working in policy into better consumers of research. Prerequisites: introductory microeconomics and macroeconomics, plus at least one statistics or econometrics course. Economic Development is also recommended by not required.

SA.320.737. The Economies of Central Asia. 4 Credits.
Gives an analytical review of the economies of the Central Asian countries. After considering the geographical, cultural and historical basis for identifying a Central Asian region, focuses on the post-independence economies of Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan and on the economic influence of the region’s major natural resources (cotton, minerals, oil and gas). Examines regional integration and relations to neighboring economies.

SA.320.744. Economic Development. 4 Credits.
This course introduces students to the study of economic development. Different disciplines have different methods – this class uses the tools of economics to examine the reasons why some places are so much more prosperous than others. Specifically, we will use mathematical modeling and econometrics to develop and test theories of economic growth, structural transformation and poverty alleviation. While the core questions in economic development could be examined anywhere in the world, we will focus on low- and middle-income countries, with some references to the historical literature in richer countries like the United States. This class is targeted at anyone considering a career in research or policymaking in developing countries, but will also provide useful skills and insights to those working on issues of poverty and growth in more developed countries as well.
Prerequisite(s): SA.300.701[C] OR SA.300.706[C] OR SA.310.701[C] OR SA.999.701[C] OR SA.10.304[C]

SA.340.709. Statistics for Data Analysis. 4 Credits.
Covers basic statistical tools for data analysis. Emphasizes facility in problem-solving in statistical inference and two-variable regression and correlation analysis. Presents descriptive statistics, probability and probability distributions and their use in hypothesis testing. Uses computer to solve problems and to reinforce statistical concepts.

SA.340.710. Econometrics. 4 Credits.
Provides comprehensive introduction to econometrics. Develops tools for estimating functional relationships and critically reading empirical studies that use different econometric techniques; presents assumptions of multivariate regression and discusses the most common econometric problems and the potential consequences and remedies; and discusses omitted variables, sample selection, heteroscedasticity, autocorrelation, multicollinearity and use of discrete variables. Introduces instrumental variable technique. Uses statistical software in applied exercises. Prerequisite: Statistical Methods for Business and Economics.
Prerequisite(s): SA.340.709[C] OR SA.999.702[C] OR SA.630.724[C]

SA.340.734. Quantitative Global Economics. 4 Credits.
Focuses on issues relevant to understanding the world economy: modeling and forecasting of exchange rates, modeling the sustainability of external imbalances, determining the importance of international capital flows and implementing monetary-policy rules. Examines empirical studies in each of these areas by looking at their assumptions, weaknesses and strengths and considering whether there are alternative methods of addressing a given issue. Students learn to develop an independent opinion of how theoretical ideas are applied to policy questions by asking: How much? Does it matter? How do you know? Prerequisite: International Monetary Theory or Accelerated International Monetary Theory.
Prerequisite(s): SA.300.708[C] OR SA.300.852[C]

SA.380.708. Sustainable Finance and Impact Investing. 4 Credits.
Rigorous introduction to why/how governments, corporations and financial institutions raise funds in financial markets—debt and equity, domestically and internationally. Themes include how financial markets differ from other markets from a public policy and regulatory perspective; innovations in capital-raising techniques; and the changing pattern of risk in financial markets resulting from globalization. Addresses key factors that distinguish financial markets and institutions in OECD nations from those in developing countries. No prerequisites, but International Monetary Theory or Accelerated International Monetary Theory is highly recommended. Limited to 50 students.
SA.380.725. Credit Markets & Credit Risk. 4 Credits.
Although the size of credit markets varies across countries, reflecting the level of economic development, its industrial structure and its regulatory regime, globally, credit markets are huge, surpassing by far equity markets as a source of finance for both the private and public sectors. McKinsey estimates that, in 2007, total global financial assets were $225 trillion, of which only $50 trillion was equity, the remainder represented various types of credit instruments. The recent Global Financial Crisis had a significant impact on credit markets, something that will be discussed repeatedly during the course. This course will examine credit markets globally, with a specific focus on understanding the particular nature of credit risk. After an overview and definitions, the mathematics of fixed income instruments will be covered. There will then follow two sections on private sector credit risk, one each for the real and banking sectors. A significant part of the course will then incorporate what has been learned in analyzing private sector credit into a discussion of sovereign credit risk. Prerequisite: Corporate Finance. 
Prerequisite(s): SA.380.760(C) OR SA.310.722(C)

SA.380.760. Corporate Finance. 4 Credits.
Introduces quantitative tools and framework of financial decision-making. Examines present-value techniques, pricing of financial instruments, trade-off between risk and return, portfolio theory, capital budgeting, financial ratio analysis, behavior of financial markets, capital structure decisions, corporate cost of capital issues, option theory and risk management. Approach is rigorous and analytical, and goal is to provide students with conceptual understanding of the ideas of financial theory as well as the quantitative methods necessary to pursue careers involving financial decision-making. Students without a background in finance/business should consider taking the online Introduction to Accounting course prior to enrollment or concurrently. Prerequisite: Microeconomics or Accelerated Microeconomics.
Prerequisite(s): (SA.300.699(C) OR SA.300.700(C) OR SA.300.704(C) OR SA.999.699(C) OR SA.999.700(C) OR SA.310.700(C)) OR SA.100.303(C)

SA.380.761. Multinational Corporate Finance. 4 Credits.
Covers issues related to both international financial markets and financial decision-making within the international environment. Focuses on understanding and forecasting financial conditions in international markets; identifying, measuring and managing exchange-rate risk; taxation of international income; implications of political risk on project valuation; and cost of capital for international projects. Prerequisite: Corporate Finance.
Prerequisite(s): SA.380.760(C) OR SA.310.722(C)

SA.380.771. Financial Derivatives and Risk Management. 4 Credits.
Introduces options, futures and swaps presented in Corporate Finance. Reviews basics of valuation methods and institutional context in which derivative contracts are traded. Describes use of basic derivative instruments as “building blocks” to construct more complex positions that increase, decrease or transform exposure to specific financial risks. Focuses on how such combinations of derivatives may be used to implement overall risk-management strategy and introduces techniques to manage financial derivatives portfolios, including value-at-risk and credit mitigation. Uses case discussions and culminates in oral presentation of a group project. Prerequisite: Corporate Finance. Limited to 25 students.
Prerequisite(s): SA.380.760(C) OR SA.380.761(C) OR SA.380.781(C) OR SA.630.725(C) OR SA.310.722(C)

The objective of the course is for SAIS students to learn about the global financial services industry and to equip them with the content, skills and capabilities necessary to obtain professional employment in financial services, industry in general, or the public sector. The course combines academic learnings with business school cases in global financial services. It emphasizes three areas: Gaining fundamental knowledge of corporate business strategy; Understanding how global financial institutions execute (or fail to execute) their strategies; Developing students’ commercial skills, such as communications, presentation skills and teaming. The class will involve case studies, substantial readings in strategy and financial services and is highly participatory. The work is demanding. Students are urged to review the syllabus in detail. Please contact Professor Kocjan (jkocjan@deloitteretired.com) if you have questions. Corporate Finance or Financial Decision-Making is recommended to have been completed.
Prerequisite(s): SA.380.760(C) OR SA.310.722(C)

International Political Economy
SA.610.703. Watching Wall Street from Washington: Financial Market Analysis for the Public Sector. 4 Credits.
This course investigates the strategies for, as well as the relevance of, financial market analysis directed toward policy audiences. Students will develop a deeper understanding of global financial markets and learn how to leverage that understanding shape and achieve policy goals. The course will cover five major topics: 1) Basic techniques for financial market analysis across a variety of major asset classes; 2) The characteristics of financial market analysis – its forms, theoretical underpinnings, advantages, and deficiencies; 3) The hierarchy of policy relevance of financial market analysis; 4) Costs, risks, and difficulties of financial market analysis for the public sector; and 5) Future challenges and formulations of public sector market analysis given the technological developments in finance, money management, and trading.

Latin American Studies Program
SA.810.727. Financial Crises and Policy Dilemmas in Emerging Markets and Latin America. 4 Credits.
This course addresses policy issues in emerging markets with a particular focus on financial crises and their implications. Over the last several years, we have witnessed a number of episodes of financial distress often leading to macroeconomic chaos, particularly in emerging markets. Financial fragility and market distress can come in many forms: Currency crises, banking crises, debt crises, or a mix of two or more of these crises. The purpose of this course is to provide students with frameworks and tools for analyzing the causes and consequences of financial fragilities and crises, as well as the policy responses they entail. To this end, the course will mix economic theory, country experiences, and actual policy responses to provide an in-depth understanding of the boom-bust cycles characteristic of emerging market economies. The course will also address the 2008 financial crisis, drawing on aspects that make this particular episode stand out from previous instances of turmoil. Emerging market policy responses to the 2008 crisis, as well as the effects on these countries of unconventional policy stimulus adopted by developed economies will also be discussed. Please note that this course was previously denoted by course number SA.400.774. The course content and syllabus remain the same.
Prerequisite(s): Students may not register for this class if they have already received credit for SA.400.774(C)
South Asia Studies
SA.790.729. Economic Development and Policy in India. 4 Credits.
The main aim of this course is to familiarize students with India’s economy. We will discuss some of the principal themes in the India’s economic development, its integration in the world economy, the political economy of reforms and growth, as well as India’s institutional development. By the end of the course, students should be able think critically about Indian economic developments and related policy issues. We will begin by assessing India’s economic evolution in her post-independence years, placing particular emphasis on the market oriented reforms undertaken in recent decades. Topics in both microeconomics (domestic de-regulation, trade reform, sectoral shifts from agriculture to industry and services, education and health) and macroeconomics (deficits, debt and crises, the exchange rate, inflation and monetary policy) will be covered. In addition, we will discuss the structure of Indian economic and political institutions and their impact on economic performance. We will focus on both conceptual issues in economics and their application in the Indian setting; this course is intended for students interested in the Indian economy as well as those interested, more broadly, in the economic issues that arise in developing countries with diversified economies and a complex political economy.
Prerequisite(s): Students may not register for this class if they have already received credit for SA.790.724[C]

Southeast Asia Studies
SA.770.731. Introduction to Economic Growth and Development of Southeast Asia. 4 Credits.
This course is designed to familiarize students with Southeast Asia’s dramatic rise from modest beginnings after the Second World War to a dynamic, rapidly growing region deeply integrated with the global economy and with close economic ties to its giant neighbors, especially China. The course will also highlight Southeast Asia’s many economic fault lines – notably rising inequality, weak governance, and a spotty environmental record, and it will examine the economic challenges facing the region as many of its members strive to avoid the middle income trap and become high income economies. Students will learn basic economic concepts and how they can be applied to yield powerful insights into Southeast Asia’s past economic performance and its future prospects. By the end of the course, students should be able to demonstrate a basic understanding of the forces that powered Southeast Asian economic performance in the past and those that are likely to shape its future.
Prerequisite(s): SA.300.699[C] OR SA.300.700[C] OR SA.310.700[C] OR SA.999.699[C] OR SA.999.700[C] OR SA.100.303[C]

For current faculty and contact information go to http://econ.jhu.edu/directoryindex/faculty/