Undergraduate Economics Program Courses

Note on Course Numbers
Each Carnegie Mellon course number begins with a two-digit prefix which designates the department offering the course (76-xxx courses are offered by the Department of English, etc.). Although each department maintains its own course numbering practices, typically the first digit after the prefix indicates the class level: xx-1xx courses are freshmen-level, xx-2xx courses are sophomore level, etc. xx-6xx courses may be either undergraduate senior-level or graduate-level, depending on the department. xx-7xx courses and higher are graduate-level. Please consult the Schedule of Classes (https://enr-apps.as.cmu.edu/open/SOC/SOCServlet) each semester for course offerings and for any necessary pre-requisites or co-requisites.

73-050 Study Abroad
All Semesters

73-051 Study Abroad
All Semesters

73-100 Principles of Economics
All Semesters: 9 units
Literally, an introduction to economic principles, the goal of this course is to give students an understanding as to what constitutes good "economic thinking". This thought process is grounded in the construction and use of economics models. Drawing on issues in both microeconomics and macroeconomics, fundamental principles are shown to transcend particular examples and allow the field to be seen as a coherent, unified whole. (Lecture, 2 hours; Recitation, 1 hour).

73-101 Freshman Seminar
Fall and Spring: 9 units
A topics-based course for first-year students who intend to major in economics. The subjects discussed vary from year-to-year and from instructor-to-instructor. Check with the Undergraduate Economics Program or their website for descriptions of recent and current offerings. (Seminar, 3 hours).
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-111 Internship I
All Semesters
By permission of the Undergraduate Economics Program.

73-112 Internship II
All Semesters: 3 units
By permission of the Undergraduate Economics Program.

73-113 Internship III
All Semesters: 3 units
By permission of the Undergraduate Economics Program.

73-148 Environmental Economics
Spring: 9 units
A course for non-majors which explores the interplay between economics and environmental issues. Topics include: market failures and environmental problems, economically efficient allocations of environmental resources, and the intended and unintended consequences of public policies designed to improve the environment. Practical issues surrounding the feasibility of implementing theoretically efficient principles and policies are analyzed, and alternative policies that might achieve better results in practice are investigated. (Lecture, 3 hours).

73-155 Legonomics: Building Blocks of Economic Analysis
Spring: 9 units
The overall theme of the course is how to use data and measurement to form models for economic analysis, with the emphasis not on any kind of formal statistical or econometric analysis, but rather on how to do the inductive science of translating perceived patterns in data into a usable model in the sense of ignoring noise and abstracting from patterns to hypothesize relationships. We will work with historical data sets to "discover" Malthusian economics and model economic relationships that governed the human condition up until the mid-1700's. We will then move on to the industrial revolution and "discover" the role of technology, culminating in an overview of modern thinking about economic growth. Questions we will consider as well as looking at looking at the current public policy responses to them are: Why are some countries rich and some are poor? Why have some countries experienced rapid economic development; what can be done to foster development of others that continue to languish? Does education lead to increased household wealth and national wealth? How are new technologies affecting economic development and economic opportunities? Can we improve design of electronic markets to take advantage of the vast opportunities for trade and exchange afforded by the internet? (Lecture, 3 hours)
Prerequisites: 21-111 and 73-100.

73-230 Intermediate Microeconomics
Fall and Spring: 9 units
This course is a calculus-based study of microeconomics. Topics in partial equilibrium analysis include supply and demand, consumer theory, theory of the firm, profit maximizing behavior, monopoly theory, and perfect competition. The course concludes with an introduction to general equilibrium analysis and the welfare laws. (Lecture, 3 hours; Recitation, 1 hour). Minimum grade standard of "C" applies of only to economics courses.
Prerequisites: 21-120 and 73-100

73-240 Intermediate Macroeconomics
Fall and Spring: 9 units
Through macroeconomic models built upon microeconomic foundations, insights are developed into economic growth processes and business cycles. Topics include aggregation and measurement, national income, business cycle measurement, economic welfare theorems and social inefficiencies, the effect of government fiscal policy upon employment and productivity, and the relationship between investment, interest rates and economic growth. (Lecture, 3 hours; Recitation, 1 hour). Minimum grade standard of "C" applies of only to economics courses.
Prerequisites: 73-100 and 73-230 and 21-120 and (21-256 or 21-259 or 21-268 or 21-269).
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-270 Writing for Economists
Fall and Spring: 9 units
A writing course specifically designed for third-year Economics majors and additional majors. Students gain experience with technical writing techniques and skills needed for both their senior thesis and their eventual professional careers. The course emphasizes both individual and group projects. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 76-101 and 73-100 and 73-230 and 73-240.
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-310 Evolution of Economic Ideas and Analysis
Fall: 9 units
This course will be organized around the study of several central topics in the development of economics such as: the "invisible hand," classical analysis of trade, value, and income distribution; the marginalist revolution; general equilibrium theory; classical monetary economics; Keynesian macroeconomics; and recent trends in theory and empirical analysis. Where possible, examination of the contemporary policy issues motivating major analytical developments will be included. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230.
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx
73-315 Market Design
Spring: 9 units
The market design class is going to cover three main subjects: matching, auctions, and, time allowing, marketplaces. Matching topics may include: Two-Sided Matching and Medical Residents House Allocation and Kidney Exchange School Choice Law Clerks and College Early Admission Auction/Marketplace topics may include: Designing Optimal Auctions Common Value Auctions Multi-Unit Auctions and Treasury Auctions Multi-Item Auctions and The Assignment Model Sponsored Search Auctions The FCC and Simultaneous Ascending Auctions Package Auctions and Radio Spectrum Introduction to the Economics of Platforms Internet Platforms: e-Commerce Internet Markets: Advertising (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses. Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230. Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-328 Health Economics
Fall: 12 units
This course will teach the student to use economic analysis to understand critical issues in health care and and health policy. We will address issues such as the following: 1. What factors best explain the level and rate of growth of U.S. health expenditures? 2. Does the recent high rate of growth of U.S. health care expenditures make U.S. firms less competitive in international markets? 3. What are some of the likely consequences (intended and unintended) of the proposed reforms to Medicare? 4. Can physicians induce demand for their services? 5. What are the impacts of managed care on the health care system? 6. Do strong affiliations between physicians and health plans hurt competition? (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses. Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230. Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-331 Political Economy of Inequality and Redistribution
Intermittent: 9 units
Three basic types of institution - markets, communities, and states (i.e. public governments) - determine the distribution of economic resources and opportunities in societies. The balance between these governing institutions has changed dramatically over time, at very different rates across societies. This course will begin with economic and political theory on why these differences over time and across countries may exist. Then it will survey some of these differences across both industrialized and pre-industrial societies and investigate their causes and consequences. Some of the questions the course will ask include the following: In the industrialized world, the public sector (government) plays a much larger role in Europe than in the United States. Why is this so? How does this affect the quality of everyday life for different classes of people? How have globalization and technological change affected the distribution of income and social policy in industrialized countries, and how does this affect the public sector? In some tribal societies, people have no access to markets at all. How does this affect distributive behavior within communities? Finally, what might be the ultimate causes of income inequality on a global scale? Are there prehistoric and environmental roots in the ways peoples of different societies are organized today? This course will examine these questions by studying theoretical and empirical research conducted by economists, economic anthropologists, political economists, and economic geographers on these questions. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses. Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230. Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-338 Financial Crises and Risk
Spring: 9 units
This course provides an in-depth examination of the causes of financial crises as well as what governments can do to prevent them or at least reduce their cost. The course is designed to provide an understanding of individual attitudes towards risk and individual decision making about savings and investment under uncertainty, and to use this understanding to evaluate the various economic roles played by financial institutions in helping individuals manage risk, especially those roles which may lead to economic instability and crises. In addition, the course may cover bubbles and swindles, especially when these spill over to the broader macroeconomy; the role of information in banks in normal times and in bank runs; crisis resolution techniques; and the extensive history of attempts to improve regulation so as to reduce the frequency and cost of crises. Prerequisites: (21-112 or 21-120) and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230. Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-340 Labor Economics
Spring: 9 units
This course uses economic theory and data to analyze topics such as: (1) individuals decisions about hours of work, investment in training or education, and choosing an occupation; (2) firms decisions about hiring, training workers, and setting wages; and (3) the resulting changes in employment outcomes as influenced by union contracts and implicit employment contracts. Also considered are public policy recommendations concerning minimum wages, job training programs, hazards on the job, race and sex discrimination, and income inequality. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses. Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230. Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-341 Economics of the Corporation
Spring: 9 units
This course focuses on coordination and incentive issues within a corporation. Topics include employment contracts, performance incentives and pricing of financial assets. Prerequisites: 73-100 and 73-230 and 21-120 and (21-256 or 21-259 or 21-268 or 21-269).

73-347 Game Theory for Economists
Fall: 9 units
An introduction to the theory of non-cooperative games with an emphasis on economic applications. After an initial examination of two-person, zero-sum games, the notion of a Nash equilibrium in an n-person, non-cooperative game is considered. Existence of and refinements to the equilibrium concept are discussed in the context of both normal and extensive form games. Economic applications may include various topics, including Cournot and Bertrand oligopoly models, general competitive exchange equilibrium, and free rider problems. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses. Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230. Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-348 Behavioral Economics
Spring: 9 units
This course introduces students to behavioral economics which is a subfield of economics that incorporates insights from other social sciences, such as psychology, into economic models and aims to explain the anomalies challenging some of the classical economic models. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses. Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230. Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx
73-352 Public Economics
Fall: 9 units
In this course, students analyze the role of governments in market economies and their impact on the behavior and welfare of citizens. Reasons for government intervention in markets are examined in light of some of the economic challenges faced by modern societies in an increasingly globalized marketplace. Topics include: taxation and expenditure policies, externalities and market failure, social security, public assistance and income redistribution programs. There will also be some coverage of the role of local governments in the economy with respect to such issues as crime, urban development and education. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259) and 73-100 and 73-230.
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-357 Regulation: Theory and Policy
Intermittent: 9 units
Government regulations touch almost every aspect of our lives from our healthcare and work environments, right down to the food we eat and the air we breathe. Using an analytical framework that encompasses economic, political, and bureaucratic forces that create and shape them, this course explores the origins, goals, and implementation of many major regulations. Areas of regulation specifically examined might include air pollution, auto safety (air bags), food additives, technological risk (nuclear reactors), occupational safety (asbestos, cotton dust), hospitals, airlines and trucking, and consumer protection (truth in advertising). (Lecture, 3 hours)
Prerequisites: 21-120 and (21-256 or 21-259) and 73-100 and 73-230.

73-358 Economics of the Environment and Natural Resources
Intermittent: 9 units
Fall or Spring A advanced course on the allocation of environmental and natural resources. Topics include: externalities and the misallocation of resources, examining the efficiency/inefficiency of markets for non-renewable resources, intended and unintended consequences of regulatory and tax policies, and modern alternative to regulation such as the creation of new markets and property rights for environmental resources. (Lecture, 3 hours) Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259) and 73-100 and 73-230.

73-359 Benefit-Cost Analysis
Fall: 9 units
The evaluation of public private sector projects. The theory of benefit-cost analysis and related techniques, such as cost-effectiveness analysis. Attention is given to such issues as valuing goods and services that are not normally traded in the marketplace (e.g., the value of an individuals life) and the social rate of discount. Applications are considered in detail. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230.

73-363 Econometrics
Fall: 9 units
This course takes as its starting point ordinary-least-squares estimation and the linear regression model, which are presented utilizing vector and matrix notation. This is followed by the application of OLS to non-linear models. Cases are then considered where the various assumptions of OLS do not hold and what corrective actions should be taken. Topics include: nonlinear-least-squares, two-stage estimation, instrumental variables, simultaneous equations, maximum likelihood estimation, and logit/probit models. (Lecture, 3 hours; Recitation, 1 hour). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230 and 73-240 and (36-217 or 36-225) and 36-226.

73-365 Firms, Market Structures, and Strategy
Spring: 9 units
This course is concerned with the economic analysis of industrial markets that are not perfectly competitive. The effects of imperfect competition on firms' decisions (pricing, location, advertising, research and development, among others) are reviewed. Implications of these effects in terms of public policy are also discussed from a variety of perspectives. Finally, applications to actual markets are considered. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230.

73-372 International Money and Finance
Intermittent: 9 units
The course introduces students to a micro-founded model of the global monetary system. The model is employed to assess the risks of money, banking, and central bank intervention in the management of inflation, employment, and financial stability. Interest rates, the international exchange rate, the trade balance, and international capital flows are explored in terms of the model. The model is used to address controversial issues in international trade and financial relations, as well as current macroeconomic stabilization problems in China, the Euro area, the United States, and elsewhere. Theoretical points are illustrated with references to historical central bank practices from around the world in recent decades. The course concludes with student briefings on current central bank policies from around the world. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230 and 73-240.

73-375 History of Money and Monetary Policy
Spring: 9 units
This course will consider the evolution of monetary institutions and policies from 550 BC to the present, providing an understanding of the role of monetary policy through a critical evaluation of the mistakes and successes of the past. Specific topics will include: Greek, Roman, and Medieval coinage; metallic systems including strengths and weaknesses of the gold standard and bimetallism; American colonial experiences; French episodes including the "system" of John Law and the Assignats of the French Revolution; critical British episodes including the Great Debasement and the Restriction of 1797-1821; and the following topics in United States history: the Constitution, early problems, Greenbacks of the Civil War, legal tender cases; the "Crime of 1873;" founding of the Federal Reserve, Great Depression, Bretton Woods, the Great Inflation, the Volcker disinflation, and the financial crisis of 2008-10. The course will include a bit of general history and history of economic thought, with just enough economic theory to provide analytical coherence. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisite: 73-100.
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-392 Financial Economics
Spring: 9 units
A rigorous quantitative course covering the economic fundamentals of financial markets. The course covers individual decision making about saving and investment under uncertainty, and the equilibrium determination of asset prices for both complete- and incomplete-market settings. In addition, the course will cover topics in corporate financial decision making and the micro-structure of financial markets. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and 21-122 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230 and 73-240.

73-394 Development Economics
Intermittent: 9 units
This course will explore issues relating to economic development in low and middle-income countries. We will discuss topics such as economic growth and inequality, education, health, the family, and the markets for land, labor, and credit. We will study how market failures can potentially prevent economic growth in the developing world. Also we explore the effectiveness of different types of policies in promoting development. The course will use both economic theory and empirical methods to answer these questions. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230.

73-395 Independent Study in Economics
Fall and Spring
The Independent Study course in economics allows the student to pursue his or her own research interests in any of a variety of topics in economics. A typical independent study course involves a semester long project under the supervision of an appropriate faculty advisor. The nature and scope of the project are determined by the student and faculty advisor. Minimum grade standard of "C" applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230 and 73-240.
73-405 Introduction to Dynamic Economics  
Intermittent: 9 units  
This course will develop the basic ideas and tools for analysis of economics moving through an ongoing sequence of time periods, rather than analysis limited to non-operational constructs such as "short run" or "long run." In this case, one thinks of equilibria as processes, not specific values of variables. In dynamic analysis, expectations about future conditions are of great importance, as are costs of adjusting variables from one period to the next. Emphasis will be given to rational expectations, the prevailing hypothesis, but some attention will be devoted to learning. Applications will include both macro and microeconomic issues. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.  
Prerequisites: 21-120 and 21-122 and (21-256 or 21-259) and 73-100 and 73-230 and 73-240 and 73-252 and 73-253.  
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-407 Fundamentals of Statistical Modeling  
Spring: 9 units  
This course provides a one-semester introduction to the theory of probability and mathematical statistics. The course will emphasize probability models and distribution theory; the practice of statistical inference based on the use of maximum likelihood estimation; and applications of statistical modeling and inference, using case studies drawn from the social, physical and biomedical sciences. The use of a computer software package will be an integral part of this course.  
Prerequisites: 21-120 and (21-256 or 21-259) or (21-268 or 21-269) and (36-202 or 36-208 or 36-220 or 36-247 or 36-309 or 70-208).  
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-408 Law and Economics  
Spring: 9 units  
This course will provide a broad overview of the scholarly field known as "law and economics." The focus will be on how legal rules and institutions can correct market failures. We will discuss the economic function of contracts and, when contracts fail or are not feasible, the role of legal remedies to resolve disputes. We will also discuss at some length the choice between encouraging private parties to initiate legal actions to correct externalities and governmental actions, such as regulatory authorities. Extensive attention will be given to the economics of litigation, and to how private incentives to bring lawsuits differ from the social value of litigation. The economic motive to commit crimes, and the optimal governmental response to crime, will be studied in depth. Specific topics within the preceding broad themes include: the Coase Theorem; the tradeoff between the certainty and severity of punishment; the choice between ex ante and ex post sanctions; negligence versus strict liability; property rules; remedies for breach of contract; and the American rule versus the English rule for allocating litigation costs. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.  
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and (36-202 or 36-208 or 36-220 or 36-247 or 36-309 or 70-208).  
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-421 Emerging Markets  
Fall: 9 units  
Course Description: The aim of the course is to understand the economic, political and institutional forces that spur or hinder business activity and success in emerging economies. The course is designed to provide an overview of fiscal, monetary, trade and labor market policies adopted in emerging economies and how these policies have impacted and continue to impact small and large businesses, investment opportunities and the growth potential of these countries. The course will focus on successful emerging economies such as India, China, Chile, Brazil, with broader lessons and comparisons drawn from developed countries, as well as from failures in other developing nations.  
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230 and 73-240.  
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-422 Real Estate Economics and Finance  
Intermittent: 9 units  
The principle objective of this course is to analyze the financial characteristics of real assets and their derivative products, as well as to provide an introduction to their associated institutions. Topics include: residential real estate markets, urban land markets, analysis of mortgages and mortgage markets, commercial property markets, financial valuation of real assets, influence of debt financing on risk and returns, innovations in real estate capital markets, and analysis of asset allocation decisions. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.  
Prerequisites: 21-120 and (21-256 or 21-259) and 73-100 and 73-230.  
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-428 Markets for Energy  
Intermittent: 9 units  
This course offers students a broad survey of the oil, natural gas, and electric-power industries, with a particular focus on their transformation from vertically-integrated, regulated entities to organizations participating in open markets and on the role of new technologies which enabled these changes. Topics include: economics of resource extraction, volatility in futures markets for oil and natural gas, the rise and fall of OPEC, power systems engineering and economics, and wholesale markets for electric power. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.  
Prerequisites: 21-120 and (21-256 or 21-259) and 73-100 and 73-230.  
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-432 Economics of Education  
Intermittent: 9 units  
In this course we examine economic issues related to education, particularly at the elementary and secondary level. In exploring why we care about education, we examine the private returns to education (those that accrue to the individual) and the social returns (those that accrue to society), and how social returns provide one rationalization for government's involvement in education. After an overview of basic facts related to the provision of elementary and secondary education in the United States, we turn to the issue of how education is produced. We study the role of financial resources, teachers and peers in the production process, and examine evidence on the effectiveness of public vs. private schools. In the face of evidence that public schools in the United States do not fare well in international comparisons, one response has been to give parents greater choice of schools for their children. This leads us to study the most prevalent school choice mechanism (choosing where to live), as well as charter schools and private school vouchers. Another response has been the movement to hold public schools accountable, of which the No Child Left Behind legislation is an example. Thus, we examine issues on accountability theory and practice. The concern remains, however, that even if elementary and secondary education were significantly improved through various mechanisms, the cognitive ability of some children would already lag behind by the time they start school due to their early childhood experiences. In this spirit we analyze evidence on early childhood interventions for disadvantaged children. Building on our understanding of educational outcomes through high school, we finish with an overview of the market for higher education, with an emphasis on college pricing and admission decisions. Throughout we use microeconomic analytical tools, and we examine empirical evidence that applies econometric techniques.  
Prerequisites: 21-120 and 21-266 and (36-226 or 36-303 or 73-363 or 73-407) and 73-100 and 73-230.  
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-433 Environmental Policy and Economics  
Spring: 9 units  
This course explores the problems of earth, air, and water pollution from an economic perspective with an emphasis on analyzing the effects of environmental policies. It is designed to help students understand real world policy questions and issues with both intermediate microeconomic concepts and econometric tools. This course is divided into two parts. Part 1 provides an overview of microeconomic principles and models that are particularly relevant to thinking about environmental policies, such as the U.S. Acid Rain Program. Part 2 provides econometric tools to estimate the costs and the benefits of environmental policies. (Lecture, 3 hours). Minimum grade standard of "C" applies only to economics courses.  
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230 and (36-202 or 36-208 or 36-220 or 36-226 or 70-208 or 73-407).  
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx
73-449 Social, Economic and Information Networks
Fall: 9 units
Interaction is a fundamental part of social science: firms market products to consumers, people share opinions and information with their friends, workers collaborate on projects, agents form alliances and coalitions. In this course, we will use the emerging field of social networks to put structure on this diverse mass of connections. Using a mixture of theoretical, empirical, and computational methods, we will learn about the structure and function of social networks. We will look at how an individual’s position in a social network reflects her role in the community. We will learn to identify tastemakers and trendsetters by looking at how information moves through our increasingly connected society. We will consider how our own position in the social network affects our behavior, opinions, and outcomes. And we will explore where social networks come from, and what affects their structure. The material in this course will be interdisciplinary, drawn from the fields of math, computer science, physics, sociology, political science, and economics. By the end of the course, you will have the tools and knowledge needed to analyze social networks on your own. The course is capped with a project where you will use your skills to answer your own questions.
Prerequisites: (36-202 or 70-207) and 73-230.

73-450 Economics Colloquium
Fall: 1 unit
Economics majors meet for one hour each week to hear discussions on current research by faculty or students, presentations on economics from economists outside academia, and expository talks on selected economics topics not part of the usual curricula. Also will include topics of special interest to undergraduates such as preparation for graduate school and topics in the press. (Colloquium, 1 hour).
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-465 Technology Strategy
Spring: 9 units
This course is about business strategy for technology-intensive industries. Examples of such industries are computer hardware and software, media and entertainment, telecommunications and e-commerce. We will explore the unique economic circumstances facing firms in these industries and identify strategies that enable firms to succeed given these circumstances. You will learn to analyze pricing strategies including vertical and horizontal product standardization decisions, managing product complements, exploiting network effects, managing platform competition. This course will help you understand the unique economic characteristics seen in today’s technology-intensive markets and how they impact the strategic interactions among firms and consumers. We will study, for example: Why firms in the IT industry give away their best products for free. Why makers of video gaming consoles subsidize end users (but tax game developers) while computer operating system makers subsidize software developers (but overcharge end users). Why Sony won the Blu-Ray format war against HD-DVD which was sponsored by a whole array of companies. In order to understand how firms strategically interact with consumers in technology-intensive industries this course will use a combination of simple but rigorous analytical models, emerging theories, and formal case studies. (Lecture, 3 hours). Minimum grade standard of “C” applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259) and 73-100 and 73-230.

73-469 Global Electronic Markets: Economics and the Internet
Fall: 9 units
The information revolution brought about by the Internet is having a dramatic impact on the organization of economic activity. Long-term contractual relationships that once governed corporate procurement are being dismantled as manufacturers use the Internet to market directly to the public. New transportation networks that used to simply move goods from point A to point B are evolving into dynamic inventory pipelines that allow manufacturers to track and even reroute shipments in real time. At the same time, individuals are making use of sophisticated search engines to comparison shop at a scale that would have been physically exhausting even five years ago. In the Economics of E-commerce, we will use the basic tools of economic analysis to understand how and why the changes in information technology are reshaping the economic landscape. (Lecture, 3 hours). Minimum grade standard of “C” applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230.

73-474 The Economics of Ideas: Growth, Innovation and Intellectual Property
Intermittent: 9 units
Healthy economies in many way resemble healthy people they are alive and vibrant, growing and adjusting in response to changing circumstances and what fuels economic growth and innovation are ideas. This course explores the role of ideas in the modern economy. Topics include: models of economic growth, economic efficiency and development, innovation and human capital, intellectual property and public policy issues. (Lecture, 3 hours). Minimum grade standard of “C” applies only to economics courses. Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230.

73-476 American Economic History
Intermittent: 9 units
The study of economic history provides important perspective on current economic institutions and policies. A failure to understand the historical evolution of economic institutions or the variety of past economic experience is perhaps the worst shortcoming of many economists. The study of economic history provides an opportunity to test currently fashionable theories against data different from those used in their construction. In fact, this is a course in applied economics. The theories developed in the intermediate courses will be applied to episodes from the past in ways that increase understanding both of the specific historical episodes considered and the economic theories employed. (Lecture, 3 hours). Minimum grade standard of “C” applies only to economics courses. Prerequisites: 21-120 and (21-256 or 21-259) and 73-100 and 73-230 and 73-240 and (36-202 or 36-208 or 36-220 or 70-208).
Course Website: http://tepper.cmu.edu/undergraduate-economics/academics/course-list/index.aspx

73-495 Advanced Independent Study in Economics
Fall and Spring
The Independent Study course in economics allows the student to pursue his or her own research interests in any of a variety of topics in economics. A typical independent study course involves a semester long project under the supervision of an appropriate faculty advisor. The nature and scope of the project are determined by the student and faculty advisor. Minimum grade standard of “C” applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259) and 21-122 and 73-100 and 73-230 and 73-240 and 73-252.

73-497 Senior Project
Fall: 9 units
A fourth-year project course, open only to Economics primary and additional majors with Senior standing. Minimum grade standard of “C” applies only to economics courses.
Prerequisites: 21-120 and (21-256 or 21-259 or 21-268 or 21-269) and 73-100 and 73-230 and 73-240 and (36-226 or 36-303 or 73-363 or 73-407).

73-500 Tepper College Honors Thesis I
Fall and Spring
Economics majors with outstanding academic records and intellectual promise will be given the opportunity to undertake original research under the direction of individual faculty members. Research topics are selected by students and approved by faculty. Prerequisites: Senior standing in the Economics Program and permission of the Economics faculty.

73-501 Tepper College Honors Thesis II
Fall and Spring
Economics majors with outstanding academic records and intellectual promise will be given the opportunity to undertake original research under the direction of individual faculty members. Research topics are selected by students and approved by faculty. Prerequisites: Senior standing in the Economics Program and permission of the Economics faculty.