



**HARVARD UNIVERSITY PH.D. PROGRAM IN HEALTH POLICY
GENERAL REQUIREMENTS*
2009 – 2010**

Students must take three one-semester courses, chosen from three concentrations outside the field of concentration. The statistics requirement (two one-semester courses in statistics) may be used to satisfy one of the three requirements, except for students concentrating in evaluative science and statistics.

DECISION SCIENCES
ECONOMICS
ETHICS
EVALUATIVE SCIENCE AND STATISTICS
MANAGEMENT
MEDICAL SOCIOLOGY
POLITICAL ANALYSIS

Courses that will definitely satisfy the requirement include, but are not restricted to, the courses listed below. *Note:* In order for a course to count for a distribution requirement in the Harvard PhD in Health Policy Program, a student must take the equivalent of a one-semester course in that concentration. For instance in ethics, if students take ID250, that should then be paired with either GHP293, GHP513, or ID292 to give an equivalent of a one-semester course.

DECISION SCIENCES

RDS280 Decision Analysis for Health and Medical Practices [HSPH]

Dr. S. Goldie

Fall 2; 2.5 credits; Lectures. Two 2-hour sessions each week.

This course is designed to introduce the student to the methods and growing range of applications of decision analysis and cost-effectiveness analysis in health care technology assessment, medical decision making, and health resource allocation. The objectives of the course are: (1) to provide a technical understanding of the methods used, (2) to give the student an appreciation of the practical problems in applying these methods to the evaluation of clinical interventions and public health policies, and (3) to give the student an appreciation of the uses and limitations of these methods in decision making at the individual, organizational, and policy level both in developed and developing countries.

Course Note: Introductory course in probability and statistics required; BIO200, BIO201, or BIO203 may be taken concurrently; introductory economics is recommended but not required.

RDS282 Cost-Effectiveness and Cost-Benefit Analysis for Health Program Evaluation [HSPH]

Dr.S. Resch, Dr. U. Siebert

Spring 2; 2.5 credits; Lectures, seminars. Two 2-hour sessions each week.

Provides an introduction to methods for economic evaluation of health and environmental programs, including theory and applications. Topics include theory of benefit-cost and of cost-effectiveness analysis, definition and methods for estimating costs, stated-preference and revealed-preference methods for valuing health and mortality risk, quality adjusted life years.

Course Note: Introductory decision analysis (e.g. RDS280, HPM286) and economics (e.g. HPM205, HPM206) are recommended. (5.06)

*Every attempt was made to include current course descriptions in this listing. Students are urged to consult the most recent versions of Harvard catalogs available both on the schools' web pages and in hard copy for up-to-date information.

RDS284 Decision Theory [HSPH]

Dr. J. Hammitt

Fall; 5 credits, Lectures. Two 2-hour sessions each week.

Introduces the standard model of decision-making under uncertainty, its conceptual foundations, challenges, alternatives, and methodological issues arising from the application of these techniques to health issues. Topics include von Neumann-Morgenstern and multi-attribute utility theory, Bayesian statistical decision theory, stochastic dominance, the value of information, judgment under uncertainty and alternative models of probability and decision making (regret theory, prospect theory, generalized expected utility). Applications are to preferences for health and aggregation of preferences over time and across individuals

RDS285 Decision Analysis Methods in Public Health and Medicine [HSPH]

Dr. J. Kim

Spring 1; 2.5 credits; Lectures, seminars, lab. Two 2-hour sessions each week, one 1.5-hour lab.

An intermediate-level course on methods and health applications of decision analysis modeling techniques. Topics include Markov models, life expectancy modeling, micro-simulation models, deterministic and probabilistic sensitivity analysis, ROC analysis and diagnostic technology assessment, and cost-effectiveness analysis.

Course Note: RDS 280, RDS 286, or equivalent introductory course on decision analysis required or signature of instructor required; familiarity with matrix algebra and elementary calculus may be helpful but not required; lab or section times to be announced at first meeting. (8.06)

ECONOMICS

Economics 1011a. Microeconomic Theory [FAS]

Catalog Number: 7230

Edward L. Glaeser

Half course (fall term). Tu., Th., 11:30–1. EXAM GROUP: 13, 14

Economics 1011a is similar to Economics 1010a, but more mathematical and covers more material. The course teaches the basic tools of economics and to apply them to a wide range of human behavior. Tools include consumer theory, optimization under uncertainty, game theory, welfare economics, incentive theory, and the economics of information. Topics include industrial organization, public finance, law and economics, the economics of the family, religion, and riots.

Note: Economics 1011a fulfills the intermediate microeconomic theory requirement for Economics concentrators. Students may take either Economics 1010a or Economics 1011a for credit. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Prerequisite: Mathematics 21a or permission of the instructor.

Economics 1011b. Macroeconomic Theory [FAS]

Catalog Number: 6993

Philippe Aghion and David I. Laibson

Half course (spring term). Tu., Th., 10-11:30, and a one-hour weekly section to be arranged. EXAM GROUP: 12, 13

The same topics as in 1010b, but with a more mathematical approach.

Note: Economics 1011b fulfills the intermediate macroeconomic theory requirement for Economics concentrators. Students may take either Economics 1010b or Economics 1011b for credit. This course, when taken for a letter grade, meets the Core area requirement for Social Analysis.

Prerequisite: Economics 1011a, Mathematics 21a, or permission of the instructor.

***Economics 2020a. Microeconomic Theory I [FAS]**

Catalog Number: 0339 Enrollment: Limited to 102.

Christopher N. Avery (Kennedy School)

Half course (fall term). M., W., 8:30–10, and a weekly section to be arranged. EXAM GROUP: 1, 2

A comprehensive course in economic theory designed for doctoral students in all parts of the University.

Consumption, production, uncertainty, markets, general equilibrium. Applications to policy analysis and business decisions. Emphasizes the use of economic theory in practical research.

Note: Offered jointly with the Kennedy School as API-111 and with the Business School as 4010.

Prerequisite: Two years of calculus and one course in probability theory. Thorough background in microeconomic theory at the intermediate level. Undergraduates with the appropriate background are welcome.

***Economics 2020b. Microeconomic Theory II [FAS]**

Catalog Number: 4058

Christopher N. Avery (Kennedy School)

Half course (spring term). M., W., 8:30–10, and a weekly section to be arranged. EXAM GROUP: 1, 2

A continuation of Economics 2020a. Topics include game theory, economics of information, incentive theory, and welfare economics.

Note: Offered jointly with the Kennedy School as API-112 and with the Business School as 4011.

Prerequisite: Economics 2010a or 2020a.

API-101 Markets and Market Failure [KSG]

Fall, 1.0 credit; Four sections*: A- Erzo Luttmer, B- Jerry Marschke, C- Pinar Dogan, D- Daniel Hojman.

This course applies microeconomic reasoning to public issues, policies, and programs. It considers economic incentives and organizations; models of economic behavior, including markets, the absence of markets, and interventions in markets; the price system and how it works; and policy objectives and instruments. All sections cover a common set of core topics; the pedagogical approaches vary with the individual instructor.

Prerequisite: The A section of this course presumes some prior exposure to the field and the ability to use basic

calculus. API-101 is required for MPP students. May not be taken for credit if taken after API-109 or API-111. API-105 (see below) is intended as an alternative to API-101 for MPAs and for MPP-UPs; MPP1 students can substitute API-105 for API-101 only with the permission of the API-105 instructor.

**The PhD Program in Health Policy strongly recommends Section A.*

API-302 Analytic Frameworks for Policy [KSG]

Fall, 1.0 credit; Richard Zeckhauser

Develops abilities in using analytic frameworks in the formulation and assessment of public policy. It considers a variety of analytic techniques, particularly those directed toward uncertainty and interactive decision problems. It emphasizes the application of techniques to policy analysis, not formal derivations. Students encounter case studies, methodological readings, the computer, a final exam, and challenging problem sets.

Prerequisites: An understanding of intermediate-level microeconomic theory and introductory techniques of optimization and decision analysis; API-101, API-102, or equivalent.

HCP-272 The Economics of Health Care Policy [KSG]

Spring, 1.0 credit; Joseph Newhouse

Policy issues related to the following topics are considered in the course: the demand for medical care services, especially as a function of insurance; the demand for insurance and issues of selection; reimbursement policies of Medicare and other payers toward health plans, hospitals, and physicians; effects of health maintenance organizations and managed care; and malpractice and tort reform. The perspective will generally be that of federal policy, although state and local perspectives will receive some attention.

Prerequisite: API-101 or equivalent. A statistics course is highly desirable. Also offered by the School of Public Health as HPM-227 and by the Faculty of Arts and Sciences as Econ. 1460.

GHP291 Microeconomics and Applications to Public Health in Developing Countries [HSPH]

Dr. A. Mahal

Spring; 5.0 credits; Lectures. Two 2-hour sessions each week.

This is a course in applied microeconomic theory (formerly PIH271). We use basic calculus, differentiation, and simple constrained maximization theory to develop empirical models of the behavior of individuals, households, firms, and markets, as well as normative theories of social welfare and resource allocation within the health sector. All applications will be drawn from population and public health issues in developing countries. Empirical applications include individuals' demand for health care, health insurance, and retirement saving; the determinants of fertility and educational investments in children; the distribution of resources within households; formal and informal mechanisms for risk sharing; the supply of physician and health services; market failures and inefficiencies due to asymmetric information in health insurance markets; and applications of the theory externalities and public goods to disease control and environmental policy. Normative applications include the trade-off between equity and efficiency, criteria for resource allocation and project evaluation within the health sector such as cost-benefit and cost-effectiveness analysis, and ethical issues such as the valuation of life, the multiple competing objectives of health policy, and fairness.

Course note: The course makes use of calculus and constrained maximization at the level of GHP274 or equivalent.

HPM206 Economic Analysis [HSPH]

Dr. D. Hemenway

Fall; 5 credits; Lectures. Three 2-hour sessions each week.

Designed to bring students to an intermediate-level understanding of microeconomic theory. Emphasizes the uses and limitations of the economic approach, with applications to public health.

ETHICS

[Philosophy 276x. Bioethics: Seminar] [FAS]

Catalog Number: 3452

Frances Kamm (Kennedy School)

Half course (spring term) EXAM GROUP: 9

Philosophical discussion of selected issues in bioethics, such as allocation of scarce resources, equity in healthcare, death, euthanasia and assisted suicide, abortion, embryonic stem cell research. Readings primarily from contemporary philosophical sources.

Note: Offered jointly with the Kennedy School as DPI-204 (formerly API-604) and the Law School as LAW-90335A. Not offered in 2009 -2010.

DPI-201 (formerly API-601). The Responsibilities of Public Action [KSG]

Fall, 1.0 Credit. Lectures. M, W, 2.40 – 4 PM Sections A –D; M, W, 11:40 AM – 1 PM Section E

Section A- Mathias Risse, Section B- Archon Fung, Section C- Frances Kamm, Section D- Christopher Robichaud, Section E- Christopher Robichaud

This course is a philosophical examination of the responsibilities of public policymakers in a democracy. The course asks two questions: (1) What should governments do? (2) What should political actors do? The first question requires consideration of public principles that guide good, just, and legitimate public policy. The second question requires consideration of the many and often competing obligations that should guide political actors inside and outside government, particularly when there is disagreement about what is good, just, and legitimate public policy. Discussions and assignments focus on applications of theoretical concepts from scholarly readings in philosophy and political theory to practical issues of public policy and policymaker responsibility.

Open to non-MPP1 students by permission of instructor only.

96715A. Reproductive Technology and Genetics: Legal and Ethical Issues (formerly 37645A. Genetics and Reproductive Technology: Legal and Ethical Issues) [HLS]

I. Glenn Cohen

Spring term, Block I, T 5 PM - 7 PM

Should individuals be able to sell reproductive materials like sperm and ovum, or reproductive services like surrogacy? Should the law require individuals diagnosed with diseases like Huntington's diseases to disclose to family members that they too are at risk for the disease? Should prenatal sex selection be a crime? Should federal funds be used for stem cell research? Should law enforcement be able to bank DNA samples collected from suspects and perpetrators? Should doctors be able to patent cell lines developed from their patients' bodies?

Since Watson and Crick's discovery of the double helix structure of DNA in 1953, and the 1978 birth of Louis Brown, the first child conceived through in vitro fertilization, pressing questions like these have propagated. In this course we will cut across doctrinal categories to examine how well the law and medical ethics have kept up, and plot directions for fruitful development.

Topics covered may include:

- prenatal genetic screening and sex selection
- Genetic enhancement
- The sale of sperm and ovum and access to reproductive technology
- Cloning
- Preembryo disposition disputes
- Wrongful birth, wrongful conception, and wrongful life torts
- Imposition of criminal liability on mothers and third parties for harm to fetuses
- The use of genetic information by insurers and employers
- The collection of genetic information by the state and the criminal justice system
- Biobanking
- Chimeras (human-animal hybrids)
- The stem cell controversy
- The patenting of genes and their derivatives
- Research ethics issues involving fetuses and embryos
- Pharmacogenomics and Race

[GHP293 Individual and Social Responsibility for Health] [HSPH]

Dr. D. Wikler

Fall 1; 2.5 credits; Lectures, case studies. Two 2-hour sessions each week.

Course not offered 2009 - 2010

The concept of responsibility for health plays a key role in health policy, but it is rarely articulated or evaluated. In this course, students will consider alternative understandings of assignments of responsibility for health to individuals, the state, the family, communities, nonprofit and for-profit firms, and other entities. They will identify their occurrences in health policy debates, assess the cogency of their use in ethical arguments in health policy, and trace the policy consequences of their normative analyses. The course will also serve as an introduction to ethical perspectives on public health.

Course Note: Minimum enrollment of 15 required.

ID250 Ethical Basis of the Practice of Public Health [HSPH]

Dr. D. Wikler

Spring 1; 2.5 credits; Lectures, case studies. Two 2-hour sessions each week.

Evaluation: Exams plus one term project (case study term paper, in-class debate, or tutorial)

Provides students with a broad overview of some of the main philosophical and moral ideas that are used as a basis for resolving debates of public health policy. Helps students develop their own capacities to analyze, criticize, evaluate, and construct policy-oriented arguments.

The practice of public health require moral reflection and argument for a number of reasons. Public health measures often make demands on the public, such as changes in lifestyles or restrictions of liberties, and these must be justified. Practitioners of public health frequently face ethical dilemmas, both in framing policy and in practice in the field, whose optimal resolution is uncertain. The work of public health practitioners is sometimes challenged on moral grounds, which must be examined and, when appropriate, countered.

The resources for moral argument and justification in public health are found in moral philosophy and philosophical theories of justice; and also in history, the social sciences, and in the science of public health itself. Students in this course will survey some of the principle philosophical approaches in addressing a number of ethical controversies in contemporary public health.

ID251 Ethical Basis of the Practice of Public Health: Health Care Delivery [HSPH]

Dr. M. Mello, Dr. D. Studdert

Summer 1; 2.5 credits; Lectures, case studies. Five 2-hour sessions each week.

This course is intended to provide physicians and public health professionals with an understanding of how politics, economic concerns, law, and ethics interact in health care policy decisions in the United States. It also explores these issues internationally through a human rights framework. Through discussion of legal cases and articles from the medical and ethics literature, we will explore topics such as informed consent, rights to health, rationing, personal responsibility for health, and fetal abuse.

ID292 Justice and Resource Allocation [HSPH]

Dr. N. Daniels

Spring 2; 2.5 credits; Lectures. Two 2-hour sessions each week

This course explores the ethical issues, especially issues of distributive justice, raised by health and health care resource allocation methodologies and decisions. We begin with examination of distributive issues raised by measures of summary population health and their extensions into cost effectiveness analysis, paying special attention to the strengths and weaknesses of the underlying welfare economic and utilitarian assumptions.

Philosophical and empirical efforts to clarify our beliefs about these distributive issues and our commitments to them will also be discussed. We then turn to recent efforts to make health inequalities and inequities a focus of priority in resource allocation, examining both conceptual and moral issues raised by different approaches to such inequalities and by the fact that the distribution of health is so significantly affected by non-health sector factors. We take up two problems of cross-cutting interest, the different concern shown for identified versus statistical victims, and emerging issues about intergenerational equity concerning the elderly and young. Finally, we turn to fair decision process as a way of resolving disputes about allocation. The goal of the course is to equip students with the ethical basis for addressing resource allocation issues in practical public health contexts, and throughout the course there is a focus real cases where controversy surrounds such decisions.

ID513 Ethics and Health Disparities [HSPH]

Dr. Norman Daniels

Spring 1; 2.5 credits; Lectures, case studies. Two 2-hour sessions each week.

When is an inequality in health status an injustice or inequity? This course examines various aspects of this issue, bringing appropriate perspectives from ethical theories (utilitarian, libertarian, liberal egalitarian, feminist) to bear on case studies revealing a range of important health disparities. Four main cases will be discussed, each focusing on a central type of health disparity: U.S. racial disparities, class disparities, gender disparities in a developing country setting, and global health inequalities. Key questions to be pursued in each case include: when is an inequality in health between this type of demographic variable unjust? When is a policy that produces, or fails to address, such an inequality race- or gender- or class-biased in a morally objectionable way? What ethical issues are raised by different methods of measuring health inequalities? How does ascription of responsibility for health affect the fairness of health inequalities? What kind of obligations exist to address health inequalities across national boundaries? What ethical issues are raised by policy approaches to addressing health inequalities and giving priority to reducing them?

EVALUATIVE SCIENCE AND STATISTICS

Economics 2110. Introductory Probability and Statistics for Economists [FAS]

Catalog Number: 7213

Rustam Ibragimov

Half course (fall term). M., W., 10–11:30. EXAM GROUP: 3, 4

Introduction to probability and statistics. Emphasis on general methods applicable to both econometrics and economic theory. Topics include probability spaces, random variables, limit laws, estimation, hypothesis testing, and Bayesian methods.

Prerequisite: Statistics (Stat 100), Linear Algebra and Calculus (Math 21a and 21b), and Real Analysis (Math 112).

Economics 2120. Introduction to Applied Econometrics [FAS]

Catalog Number: 2352

Gary Chamberlain

Half course (spring term). Tu., Th., 2:30–4. EXAM GROUP: 16, 17

Introduction to methods employed in applied econometrics, including linear regression, instrumental variables, panel data techniques, generalized method of moments, and maximum likelihood. Includes detailed discussion of papers in applied econometrics and computer exercises using standard econometric packages.

Note: Enrollment limited to PhD candidates in economics, business economics, health policy, public policy, and political economy and government (PEG). Offered jointly with the Kennedy School as API-217.

Prerequisite: Economics 2110 or API-209 or equivalent.

Government 2000. Introduction to Quantitative Methods I

Catalog Number: 2281

Adam Glynn

Half course (fall term). Tu., 2–4. EXAM GROUP: 16, 17

Graduate-level version of Gov. 1000. Meets with Gov. 1000, an introduction to statistical research in political science with a focus on applied linear regression. Will require extra homework and examination problems in addition to those for Gov. 1000.

Prerequisite: Permission of the instructor for anyone other than Government Department graduate students.

Government 2001. Advanced Quantitative Research Methodology

Catalog Number: 8941

Gary King

Half course (spring term). M., 2–4. EXAM GROUP: 7, 8

Graduate-level version of Gov. 1002. Meets with Gov. 1002, introduces theories of inference underlying most statistical methods and how new approaches are developed. Examples include discrete choice, event counts, durations, missing data, ecological inference, time-series cross sectional analysis, compositional data, causal inference, and others. Will require extra homework and examination problems in addition to those for Gov. 1002.

Prerequisite: Government 2000 or the equivalent.

Statistics 110. Introduction to Probability [FAS]

Catalog Number: 0147

Joseph K. Blitzstein

Half course (fall term). M., W., F., at 12, and a weekly section to be arranged. EXAM GROUP: 5

A comprehensive introduction to probability. Basics: sample spaces and events, conditional probability, and Bayes' Theorem. Univariate distributions: density functions, expectation and variance, Normal, t, Binomial, Negative Binomial, Poisson, Beta, and Gamma distributions. Multivariate distributions: joint and conditional distributions, independence, transformations, and Multivariate Normal. Limit laws: law of large numbers, central limit theorem. Markov chains: transition probabilities, stationary distributions, convergence.

Note: When taken for a letter grade, this course meets the Core area requirement for Quantitative Reasoning.

Prerequisite: Mathematics 19a or equivalent or above required (may be taken concurrently), Mathematics 19b or equivalent or above recommended.

Statistics 111. Introduction to Theoretical Statistics [FAS]

Catalog Number: 1836

Edoardo Maria Airoidi

Half course (spring term). Tu., Th., 1–2:30, and a weekly section to be arranged. EXAM GROUP: 15, 16

Basic concepts of statistical inference from frequentist and Bayesian perspectives. Topics include maximum likelihood methods, confidence and Bayesian interval estimation, hypothesis testing, least squares methods and categorical data analysis.

Prerequisite: Mathematics 19a and 19b or equivalent and Statistics 110.

Statistics 139. Statistical Sleuthing Through Linear Models

Catalog Number: 1450

Yoonjung Lee

Half course (fall term). Tu., Th., 10-11:30, and a weekly section to be arranged. EXAM GROUP: 12, 13

A serious introduction to statistical inference where linear models and related methods are used. Topics include the pros and cons of t-tools and their alternatives, multiple-group comparisons, linear regressions, model checking and refinement. Emphasis on statistical thinking and tools for real-life problems, application to current events whenever relevant.

Prerequisite: Statistics 100 or equivalent and Mathematics 19a and 19b or equivalent.

Statistics 149. Statistical Sleuthing through Generalized Linear Models

Catalog Number: 6617

Mark E. Glickman (Boston University)

Half course (spring term). M., W., 2:30–4. EXAM GROUP: 7, 8

A sequel to Statistics 139, emphasizing common methods for analyzing categorical data. Topics include mixed effects model, contingency tables, log-linear models, logistic, Probit and Poisson regression, model selection, and model checking. Examples will be drawn from several fields, particularly from biology and social sciences.

Prerequisite: Statistics 139 or permission of instructor.

Statistics 160. Design and Analysis of Sample Surveys

Catalog Number: 2993

Alan M. Zaslavsky (Medical School)

Half course (fall term). M., W., 2:30–5. EXAM GROUP: 7, 8, 9

Methods for design and analysis of sample surveys. The toolkit of sample design features and their use in optimal design strategies. Sampling weights and variance estimation methods, including resampling methods. Brief overview of nonstatistical aspects of survey methodology such as survey administration and questionnaire design and validation (quantitative and qualitative). Additional topics: calibration estimators, variance estimation for complex surveys and estimators, nonresponse, missing data, hierarchical models, and small-area estimation.

Prerequisite: Statistics 111 or 139 or permission of instructor.

API-201. Quantitative Analysis and Empirical Methods [KSG]

Fall, 1.0 Credit; Lectures: T, Th, 10:10 – 11:30 AM, Sections A, B, & D; Section C, T, Th, 1:10 – 2:30 PM

Section A- Herman Bennett, Section B-John Friedman, Section C- John Friedman, Section D- Dan Levy

Introduces students to concepts and techniques essential to the analysis of public policy issues. Provides an introduction to probability, statistics, and decision analysis emphasizing the ways in which these tools are applied to practical policy questions. Topics include: descriptive statistics; basic probability; conditional probability; Bayes' rule; decision making under uncertainty; expected utility theory; sampling design; statistical inference; and hypothesis testing. The course also provides students an opportunity to become proficient in the use of computer software widely used in analyzing quantitative data.

This course is intended as a prelude to API-202. The A section moves more quickly through the material, spends more time on advanced topics, and assumes a greater mathematical facility than is required for the other sections.

The A section is recommended, but not required, for students who are planning to take API-302. This course may not be taken for credit with API-205 or 209.

API-202. Empirical Methods II [KSG]

Spring, 1.0 Credit; Lectures: T/Th, 10:10 – 11:30 AM

Section A- Amitabh Chandra, Section B- Suzanne Cooper, Section C- Joshua Goodman, Section D- Rema Hanna

Intended as a continuation of API-201, this course equips students with an understanding of common tools of empirical analysis in policy applications. Much of the learning will take place through hands-on analysis of data sets. The course will cover regression analysis, including multiple regression, dummy variables, and binary dependent variables; as well as program evaluation, including selection effects; the advantages and disadvantages of experimental, quasi-experimental, and observational data; and instrumental variable techniques. The final part of the course includes an integrative exercise in which students will have the opportunity to assess empirical analysis in an open-ended and professionally realistic project.

Prerequisite: API-201 or equivalent.

The A section moves more quickly through this material, spending time on more advanced applications. The A section also assumes a greater mathematical facility than is required for the other sections. May not be taken for credit with API-210.

API-209 Advanced Quantitative Methods I: Statistics [KSG]

Fall, 1.0 Credit; Lectures: T/Th, 1:10 – 2:30 PM

Dan Levy

The goal of this course is to prepare students to analyze public policy issues using statistics. It covers topics in the areas of probability theory, sampling, estimation, hypothesis testing, and regression analysis. While many students taking this class will have already taken courses in statistics and regression analysis, this course will probably place a much stronger emphasis than typical courses on conceptually understanding the statistical methods. Since the course is targeted to first-year students in the MPA/ID program, we will not shy away from using the mathematical tools needed to develop the conceptual understanding. But the emphasis of the course will be on the conceptual understanding and application of the tools rather than on the math or the mechanics behind the tools.

Prerequisites: Multivariate calculus or linear algebra.

This course is open to non-MPA/ID students only by permission of the instructor. May not be taken for credit with API-201.

API-210 Advanced Quantitative Methods II: Econometric Methods [KSG]

Spring, 1.0 Credit; Lectures: T/Th, 11:40 AM – 1:00 PM

Alberto Abadie

Intended as a continuation of API-209, Advanced Quantitative Methods I, this course focuses on developing the theoretical basis and practical application of the most common tools of empirical analysis including non-linear models, instrumental variables, and panel data. Foundations of analysis will be coupled with hands-on examples and assignments involving the analysis of data sets.

Prerequisites: API-209 or permission of the instructor.

This course is open to non-MPA/ID students only by permission of the instructor. May not be taken for credit with API-202.

S-030A Intermediate Statistics: Applied Regression and Data Analysis [GSE]

Spring 2010 course, four credits; Tuesday and Thursday, 10:00 a.m. - 11:30 a.m.

Stephanie M. Jones

S-030B Intermediate Statistics: Applied Regression and Data Analysis [GSE]

Spring 2010 course, four credits: Tuesday and Thursday, 1:00 p.m. – 2:30 p.m.

Faculty to be announced

Are scores on high-stakes tests primarily a function of socioeconomic status? Do mandatory seat belt laws save lives? In this class, students will learn how to use a set of quantitative methods referred to as the general linear model--regression, correlation, analysis of variance, and analysis of covariance--to address these and other questions that arise in educational, psychological, and social research. Using dozens of real data sets as catalysts, we will discuss how to (1) formulate interesting research questions; (2) select appropriate statistical techniques; (3) conduct necessary calculations; (4) examine assumptions necessary for the technique to work appropriately; (5) interpret analytic results; (6) identify rival explanations of the results; and (7) summarize the findings in a cogent and convincing argument. Because quantitative skills are learned best through practice, computer-based statistical analyses will be an integral part of the course.

Prerequisite: An introductory statistics course at the level of S-012/S-010Y or permission of the instructor.

S-052 Applied Data Analysis [GSE]

Fall 2009 course, four credits; Tuesday and Thursday, 11:30 a.m. - 1:00 p.m. Starts Thursday, September 3

John B. Willet

S-052 is designed for those who want to extend their data-analytic skills beyond a basic knowledge of multiple regression analysis, and who want to communicate their findings clearly to audiences of researchers, scholars, and policymakers. The course contributes directly to the diverse data-analytic toolkit that the well-equipped empirical researcher must possess in order to perform sensible analyses of complex educational, psychological, and social data. Topics in the course include more extensive use of transformations in regression analysis, influence statistics, building and comparing taxonomies of regression models, general linear hypothesis testing, an introduction to multilevel modeling, nonlinear regression analysis, binomial and multinomial logistic regression analysis, principal components analysis, cluster analysis, introduction to discrete-time survival analysis, dealing with missing data, and others. S-052 is an applied course that offers conceptual explanations of statistical techniques, along with opportunities to examine, implement, and practice them in real data. Learning the computer skills necessary to conduct these kinds of analyses, and the communication skills to discuss them, is an integral part of the course.

Prerequisite: Successful completion of S-030 or permission of the instructor.

MANAGEMENT

Building and Sustaining a Successful Enterprise [HBS]

Course Number 1504

Professor Clayton M. Christensen and Professor of Mgt Practice Raymond V. Gilmartin

Fall, 29 Sessions; Paper

Professor Gary P. Pisano and Professor of Mgt Practice Willy C. Shih

Winter, 29 Sessions; Paper

CAREER FOCUS: In this course we will study the challenges of building and managing an enduring, successful company or renewing the vitality of an existing organization, from the point of view of the general manager. This course will prove valuable to future general managers, as well as those who will consult for or invest in operating companies.

EDUCATIONAL OBJECTIVES: The focus of this course is to learn how to use well-researched theories about strategy, innovation and management to understand why things happen the way they do in businesses, and to understand what management tools, strategies and methods will and will not be effective, in the different circumstances in which our students find themselves.

COURSE AND CONTENT OBJECTIVES: In the early sessions of the course, we will introduce models about the key jobs of the general manager, who must integrate the marketing, product development, operations, strategic planning, financial, and human dimensions of the enterprise. We will employ these models throughout the course to understand the root cause of the challenges the general managers in our cases are facing, and to develop action plans for resolving them. During the case discussions, we will seek to answer some of the following questions; which are relevant to start-up companies as well as large, established ones.

How can I beat powerful competitors? How can I create products that better connect with customers? How integrated should our company be? How should we set strategy? From whom should we get funding for new growth initiatives? How should we structure our organization? How can we build and exploit a valuable brand? How can we create and sustain a motivated group of employees? Who should we hire or promote to manage this effort? The paper for the course will not require field or library research. Rather, it will require students to use the theories that we learn in the seminar to understand and resolve a complex problem or opportunity that they have seen in a company that they know.

Operations Strategy [HBS]

Course Number 2166

Associate Professor Robert S. Huckman

Assistant Professor Daniel C. Snow

Fall, 20 Sessions; Paper

CAREER FOCUS: Operations Strategy is geared toward students pursuing careers in either operating companies (manufacturing or services) or professional service firms (e.g., consulting, private equity, venture capital, and investment banking) who require a deeper understanding of how operating models impact competitive performance.

EDUCATIONAL OBJECTIVES: Operations Strategy is about how operations determines-not just supports-the competitive positioning of the firm. As such, it requires students to consider how the design and management of a firm's operating system is influenced by interactions with competitors.

The course introduces analytical frameworks for evaluating and managing operating systems, asking such questions as: How can I determine if a company's operating system represents a source of competitive advantage (or disadvantage)? How do I make the initial decisions about the design of an operating system (e.g., scope of activity, capacity planning, and approaches to quality improvement)? How do I adapt an operating system to changing competitive conditions?

COURSE CONTENT AND ORGANIZATION:

Much of the learning emerges from the analysis of "paired" firms within a common industry. The course is structured around four modules that include cases on international and US firms from a variety of service, high-technology, and manufacturing industries.

Part 1: The Concept of an Operations Strategy.

Provides an overview of key diagnostic and analytical tools for identifying, framing, and solving strategic operating issues. This module introduces a framework for defining a company's operating system and evaluating its operations strategy.

Part 2: Structuring the Operating System.

Examines the key issues that a firm faces in establishing its operations strategy. This module covers key tools for resolving the challenges of operational networks, setting capacity levels and allocating capacity within the network, and establishing a strategy for operational improvement.

Part 3: Managing Operational Focus.

Addresses a fundamental tension faced by successful operating systems-how to balance the competing objectives of operational focus and growth. This module provides frameworks for decisions concerning the optimal scope of the operation and approaches to leveraging the benefits of operational focus while preserving options for firm growth.

Part 4: Transforming the Operating System.

Considers how firms should approach the execution of fundamental changes in their operating systems (e.g., entry into fundamentally new businesses or shocks to the competitive or technological landscape in existing businesses).

This module considers approaches for determining which new opportunities should (and should not) be pursued based on the existing operational capabilities of the firm.

Innovating in Health Care [HBS]

Course Number 2180

Professor Regina Herzlinger

Winter, 29 Sessions; Paper

CAREER FOCUS: For those interested in health care management, consulting, and investing

EDUCATIONAL OBJECTIVES: Innovating in Health Care first enables students to identify the alignment between an entrepreneurial health care venture and the Six Forces that shape this sector - structure, financing, technology, consumers, accountability, and public policy- and to create a business model that responds appropriately. Innovating in Health Care covers these issues in every part of the sector, including insurance, services, IT, medical devices, biotechnology, diagnostics, and pharmaceuticals.

CONTENT AND ORGANIZATION: Innovating in Health Care introduces students to the Six Forces that critically shape new health care ventures--Financing, Structure, Public Policy, Consumers, Technology, and Accountability--and their impact on business models for three different kinds of innovations: consumer-focused, technology-driven, and consolidations.

The course proceeds from this introduction to the framework to a module which delineates each of the Six Forces in detail, through case studies of firms that succeeded or floundered in each of the Six Forces. For example, one section focuses on how the financing force affects new ventures, i.e., how do innovators get paid? The health care industry worldwide is typically financed by a third party, not its users. In the U.S., employers are the primary sources of payment through private health insurance companies. State and federal governments pay for most of the healthcare expenses for their employees, the elderly and the poor. In the ROW, the health care expenses of developed countries are typically paid by governments. The "Note on Financing of the U.S. Health Care Sector" explains the overall financing of health care in the U.S., the interest of consumers in these financing mechanisms, the different kinds of insurance plans used by employers and government, and the accountability and public policy issues they raise. The "Note on Health Insurance Coverage, Coding, and Payment" explains how these processes operate for various types of medical technology products and related service providers. Two medical technology cases then describe payment challenges.

The concluding module focuses on case studies of entrepreneurial firms, typically with the case protagonists present. Students must prepare a business plan in this course, which employs the framework, to explore an entrepreneurial opportunity in health care.

Managing Medicine [HBS]

Course Number 2190

Senior Lecturer Richard Bohmer

Fall, 20 Sessions; Paper

The U.S. healthcare market is currently undergoing widespread change. New technologies and healthcare delivery models, coupled with increasing consumer empowerment will ultimately revolutionize healthcare delivery.

However, for entrepreneurs and healthcare managers alike, this is a particularly challenging market because of its complexity, fragmented structure and large number of constituencies. In order for managers to improve the quality and efficiency of healthcare delivery, or successfully launch new services or products, they must understand the design and management of healthcare operations. Many healthcare innovations ultimately fail because they neither integrate with existing clinical processes, nor successfully create new ones. The course will examine the unique characteristics of the care delivery process in order to help students identify opportunities for innovation and

develop the management skills needed to design and implement operational and technologic change in healthcare. health care market is currently undergoing widespread change. New technologies and health care delivery models, coupled with increasing consumer empowerment will ultimately revolutionize health care delivery. However, for entrepreneurs and health care managers alike, this is a particularly challenging market because of its complexity, fragmented structure and large number of constituencies. In order for managers to improve the quality and efficiency of health care delivery, or successfully launch new services or products, they must understand the design and management of health care operations. Many health care innovations ultimately fail because they neither integrate with existing clinical processes, nor successfully create new ones. The course will examine the unique characteristics of the care delivery process in order to help students identify opportunities for innovation and develop the management skills needed to design and implement operational and technologic change in health care.

CAREER FOCUS: The course is aimed primarily at those students who are contemplating a career in the healthcare industry. It will be equally valuable for students planning a career with organizations that supply innovations to the delivery sector, such as device and pharmaceutical companies, and those interested in managing healthcare delivery. Those planning to work for organizations that serve these two constituencies, such as consultants and healthcare venture capitalists will also be helped by the course. Because we focus on innovation and change, the course will help healthcare entrepreneurs understand how to execute their ideas. Although the course uses material primarily drawn from the U.S. healthcare sector, it addresses issues relevant to all healthcare systems.

EDUCATIONAL OBJECTIVES: The course aims to give students an understanding of the complex interaction between science, medicine, healthcare delivery and the practice of management. It will discuss the way this interaction influences the choice of appropriate system design, and improvement, and marketing strategies. It will enable students to take leadership positions in healthcare organizations and new ventures. The course is designed to expose students to some of the new management research in the healthcare field and will build upon the ongoing research of HBS faculty. It is intended to complement other healthcare courses by looking closely at healthcare delivery to understand how new innovations are adopted by patients and healthcare professionals.

COURSE CONTENT AND ORGANIZATION: The course will cover several major areas: the fundamental nature of the health care process, the design, management and improvement of health care processes, evaluation of new health care delivery models, and, evaluation of strategies promoting technology adoption in health care. As part of the course requirement students will be asked to complete a paper describing an important issue or dilemma faced by a healthcare manager or entrepreneur and the appropriate response.

[The Management of Technological Innovation] [HBS]

Course Number 4540

Lee Fleming

Half course - fall term

This doctoral seminar explores a range of topics associated with innovation and technology strategy. It is designed to provide doctoral students with a relatively comprehensive overview of the important streams of literature in the innovation field from an inter-disciplinary perspective, including economics, sociology, psychology, management, and organizational theory.

The course is open to all doctoral students regardless of program or year. It will be particularly helpful to those students who might pursue a thesis on some aspect of technology or innovation.

COURSE REQUIREMENTS: The course will be organized as follows. Each week, a comprehensive set of readings will be assigned. Students will be expected to come to class prepared to discuss these readings and associated concepts in depth. You will be required to write a final paper. This paper can either be a research proposal that builds upon novel ideas you generated in the course (potentially a thesis topic) or a theory paper which develops new insights based on the literature discussed in class.

[*Psychology 2650. Behavioral Approaches to Decision Making and Negotiation] [FAS]

Catalog Number: 7147

Max H. Bazerman (Business School)

Half course (spring term). M., 3-6. EXAM GROUP: 8, 9

Research overview of behavioral decision making and decision analytic perspectives to negotiation. Explores bounded rationality, decision biases, human decision making. Develops a behavioral decision perspective to negotiation, and examines how the field is currently evolving.

Note: Expected to be given in 2010-11. Offered jointly with the Business School as 4420 and with the Kennedy School as MLD-308.

MEDICAL SOCIOLOGY

[*Psychology 2630. Social Behavior in Organizations: Seminar] [FAS]

Catalog Number: 0991

J. Richard Hackman

Half course (fall term). Topics include how groups and organizations affect individual members and vice versa; interpersonal and group processes; work team effectiveness; power, political, and intergroup dynamics; group and organizational leadership.

Note: Expected to be given in 2010–11. Limited to doctoral students. Students are expected to attend the lectures of Psychology 1501.

Sociology 224. Organizational Analysis: Seminar [FAS]

Catalog Number: 8202

Christopher Marquis (Business School)

Half course (spring term). Th., 1–3.

Reviews classical and contemporary theories of organizations, including ecological, institutional, resource dependence, transaction-cost, agency theory, learning theory, and organizational culture. Examines phenomena at multiple levels from the establishment to the organizational network or field.

15.311 Organizational Processes (MIT Sloan School of Management)

R. Fernandez, P.J. Bockowski, J. Van Maanan

Enhances students' ability to take effective action in complex organizational settings by providing the analytic tools needed to analyze, manage, and lead the organizations of the future. Emphasizes the importance of the organizational context in influencing which individual styles and skills are effective. Employs a wide variety of learning tools, from experiential learning to the more conventional discussion of written cases. Centers on three complementary perspectives on organizations: the strategic design, political, and cultural "lenses" on organizations.

15.341 Individuals, Groups, and Organizations (MIT Sloan School of Management)

J. Carroll

Develops basic concepts for understanding individual, group, and organizational behavior through critical analysis of important works in the field. Areas covered: individual affect and cognition; group process and performance; and organizational culture and adaptation. Emphasizes use of behavioral science concepts for stimulating new and useful organizational behavior research. Primarily for doctoral candidates in the Sloan School of Management.

15.342J Organizations and Environments (MIT Sloan School of Management)

E. Zuckerman and P. Boczowski

This subject has two main goals. The first goal is to provide an introduction to research in "organizations and environments," an interdisciplinary domain of inquiry drawing primarily from sociology, and secondarily from economics, psychology, and political science. Seeks to understand organizational processes and outcomes in the surrounding economic, cultural, and institutional context in which they are situated. The second goal is to provide an introduction to the main groups that together form the Behavioral Policy Sciences (BPS) area of MIT/Sloan. In addition to Economic Sociology, these groups are Organization Studies, Work and Employment, Strategic Management, Global Management, and Technology, Innovation, and Entrepreneurship. Primarily for first-year doctoral students in BPS. Subject consists of four modules that are taught by faculty from each of the four BPS groups, as well as integrative sessions taught by the main instructor.

Also:

Courses listed on pages 4-5 of the Medical Sociology Requirements Document:

http://www.healthpolicy.fas.harvard.edu/concentration_pdfs/MedicalSociology.pdf

POLITICAL ANALYSIS

HCP-175 Political Analysis and Strategy for U.S. Health Policy [KSG]

Robert Blendon

Spring Term. M.,W., 4:10-5:30 PM

This course is designed to meet the following objectives: (1) to analyze the politics surrounding major health policy developments in the United States; (2) to examine and to develop possible strategies for influencing political debates and health policy outcomes; and (3) to emphasize the ways political analysis and strategy can improve policy outcomes. Major topics to be covered include: analyzing the role of interest groups, media, public opinion, legislative lobbying, elections, coalition building, policy legacies, institutions, and the politics of information as it affects health policy. Case studies focus on the enactment of the Medical Prescription Drug Bill and Patient Care Bill of Rights, as well as passionate issues such as abortion. Major movements toward comprehensive national health insurance, including the Clinton health plan, will also be covered. Leaders in political strategy from both the health and political fields will be guest lecturers.

NOTE: Students may take HCP-175 to fulfill a distribution requirement in political analysis. If a conflict prevents this, a student may instead take ID242 (Fall 1) but must also combine it with an additional one-semester relevant course, approved by the chair of the political analysis concentration.

OTHER REQUIREMENTS

- All students must take the full-year course, Health Policy 2000 ('Core Course'), in the first year.
- Starting in their third year and continuing until they complete the program, students are required to take the weekly research seminar (Health Policy 3040hf) given by the PhD Program in Health Policy.
- A half-semester course in epidemiology is required.