

Department of Social and Decision Sciences

Department Office: Porter Hall 208
www.hss.cmu.edu/sds.html

The Department of Social and Decision Sciences is a multidisciplinary department that offers undergraduate programs that seamlessly combine frontier knowledge in the social sciences with the practical skills needed to excel in key decision making roles in the public and private sectors and in advanced studies. Our students learn how to combine intellectual ideals with the realities of human and organizational behavior and to apply these lessons across a wide variety of endeavors, ranging from government service to leadership positions in the information economy.

The department offers undergraduate majors in Decision Science and Policy and Management, and oversees the Global Politics major offered by the Global and International Relations Program. The majors leverage off of our departmental core that includes courses in decision analysis, empirical research, organizations, and policy analysis. In addition to completing this core, students also specialize in their major area through a set of required and elective courses.

Our faculty is committed to the academic success and growth of our students. For example, many of our undergraduates work with faculty on research projects and internships. The directors of the majors are easily accessible and encourage students to talk with them about the curriculum, progress, and available opportunities.

The Department of Social and Decision Sciences has a long history of creating innovative and prescient undergraduate programs that combine key ideas from across the social sciences into cohesive majors that allow our graduates to excel in their chosen professions or in the pursuit of advanced studies. Our emphasis on the theory and practice of individual and social decision making linked with our high-quality, multidisciplinary social science faculty, provides a solid foundation from which graduates can embrace a variety of future paths.

The Major in Decision Science

Baruch Fischhoff, Faculty Director
Office: Porter Hall 219E
Connie Angermeier, Academic Advisor
Office: Porter Hall 208A

The interdisciplinary field of Decision Science seeks to understand and improve the judgment and decision making of individuals, groups, and organizations. Qualified graduates can continue to PhD programs in Decision Science or related fields (e.g., psychology, business), pursue professional degrees (e.g., MBA, MD, JD, MPH), or take professional positions in business, government, consulting, or the non-profit sector. Students work with faculty to tailor their education to their specific needs and interest.

Carnegie Mellon is one of the leading centers for the study of Decision Science – and was the first to offer the only such undergraduate major. Our faculty are involved in applying Decision Research in a wide variety of areas, allowing them to share practical experiences with students. These applications include medical decision making (e.g., conveying the costs and benefits of treatment options), legal decision making (e.g., understanding the effects of anger on attributions of responsibility), societal risk management (e.g., assessing and communicating the risks of terrorist attacks), marketing (e.g., understanding the effects of intertemporal choice on purchasing decisions), and business (e.g., identifying unrecognized conflicts of interest).

Decision Science is grounded in theories and methods drawn from psychology, economics, philosophy, statistics, and management science. Courses in the major cover the three aspects of decision science: (a) normative analysis, creating formal models of rational choice; (b) descriptive research, studying how cognitive, emotional, social, and institutional factors affect judgment and choice, and (c) prescriptive interventions, seeking to improve judgment and decision making. In addition to gaining a broad education in the principles of judgment and decision making, Decision Science majors gain broadly applicable skills in research design and analysis. They also have the chance to think about and discuss decision making in many different areas.

The core courses in Decision Science cluster into two categories. The theory cluster presents fundamental theories and results from the empirical study of decision making, as well as the application of decision-making research to real-world problems. The research methods cluster introduces students to methods for collecting and analyzing behavioral data. For example, students learn to conduct surveys (e.g., uncovering consumer or managerial preferences), design experiments evaluating theories, and evaluate the effectiveness of interventions.

The elective courses provide students with additional knowledge in areas of decision making that meet their personal intellectual and career goals. These courses are organized into four clusters: biological and behavioral aspects of decision making, managerial and organizational aspects, philosophical and ethical perspectives, and research methods. Students can concentrate in one area or spread their studies across them. In addition to coursework, the department offers research opportunities for interested and qualified students. Participating in research helps students to extend their mastery of decision science, discover whether a research career is right for them, and get to know faculty and graduate students better.

Prerequisites

All Decision Science majors must complete mathematics and statistics prerequisites (see below), by the end of the sophomore year.

Mathematics Prerequisite (10-20 units)

21-111 Calculus I AND 21-112 Calculus II (10 units each)
OR
21-120 Differential and Integral Calculus (10 units)

Statistics Prerequisite (9 units)

36-201 Statistical Reasoning and Practice (9 units)

Curriculum 108 units

The core curriculum in Decision Science consists of two courses in empirical research methods and five courses providing the disciplinary perspectives of Decision Science.

Disciplinary Perspectives 45 units

88-120	Reason, Passion, and Social Cognition**
85-211	Cognitive Psychology
88-220	Policy Analysis I
88-223	Decision Analysis and Decision Support Systems
88-302	Behavioral Decision Making

** 88-120 should be taken in the freshman or sophomore year.

Research Methods 18 units

36-202	Statistical Methods
88-251	Empirical Research Methods

Electives 45 units

Complete five courses from the following categories of courses. Most courses listed below are 9-unit courses, but some are less. When courses offered for less than 9 units are chosen, students should note that a minimum of 45 units is required, and should plan to take one or more additional courses as appropriate. The selected courses may be from one category or from any combination of categories.

At least two of these courses (18 units) must be Department of Social and Decision Sciences courses (88-xxx).

1. Biological and Behavioral Aspects of Decision Making

- 85-219 Biological Foundations of Behavior
- 85-241 Social Psychology
- 85-352 Evolution Psychology
- 85-355 Introduction to Cognitive Neuroscience
- 85-414 Cognitive Neuropsychology
- 85-442 Health Psychology
- 88-307 Irrationality
- 88-360 Behavioral Economics
- 88-377 Attitudes and Persuasion
- 88-386 Desires and Decisions
- 88-407 Health Risk Communication

Appropriate courses offered by the Department of Neuroscience at the University of Pittsburgh (available during the academic year through cross-registration) may also be included as part of this option. Contact the Decision Science faculty director for more information.

2. Managerial and Organizational Aspects of Decision Making

- 70-332 Business, Society and Ethics
- 70-381 Marketing
- 70-481 Marketing Research
- 88-221 Policy Analysis II
- 88-222 Policy Analysis III
- 88-341 Organizational Communication
- 88-444 Public Policy & Regulation

3. Philosophical and Ethical Perspectives on Decision Making

- 19-426 Environmental Decision Making
- 80-208 Critical Thinking
- 80-241 Ethical Judgments in Professional Life
- 80-242 Conflict, Dispute Resolution
- 80-271 Philosophy and Psychology
- 80-305 Rational Choice
- 80-321 Causation and Social Policy
- 80-340 Environmental Ethics and Decision Making
- 80-346 Value Fact and Policy

4. Economic and Statistical and Methods for Decision Science

- 73-325 Strategic Behavior in Non-cooperative Games
- 73-347 Game Theory for Economists
- 73-435 Economics of Negotiations
- 80-316 Causation Probability & AI
- 80-405 Game Theory*
- 88-316 Game Theory*
- 88-360 Behavioral Economics
- 88-387 Social Norms and Economics

*80-405 and 88-316 are different courses and are not cross-listed.

5. Research Methods for Decision Science

- 36-303 Sampling, Survey and Society
- 36-310 Fundamentals of Statistical Modeling
- 80-330 Research Ethics
- 85-340 Research Methods in Social Psychology

Note: Some courses have additional prerequisites.

Decision Science, B.S.

Sample Curriculum*

Freshman or Sophomore Year	Junior Year		Senior Year		
	Spring	Fall	Spring	Fall	Spring
Reason, Passion, & Cognition** 88-120	Policy Analysis I 88-220	Decision Analysis & Support Systems 88-223	Decision Science Elective	Decision Science Elective	
Statistical Methods 36-202	Behavioral Decision Making 88-302	Empirical Research Methods 88-251	Decision Science Elective	Decision Science Elective	
Open Prerequisite	Cognitive Psychology 85-211	Decision Science Elective	Elective or Honors Thesis	Elective or Honors Thesis	
Elective	Elective	Elective	Elective	Elective	
Elective	Elective	Elective	Elective	Elective	

*This is presented as a two-year (junior-senior) plan for completing major requirements, with the exception of 88-120 and 36-202. Its purpose is to show that this program can be completed in as few as two years; not that it must be. Students may enter their major, and begin major course requirements, as early as the start of the sophomore year, and in some instances in the freshman year. Students should consult their advisor when planning their program. Students who are planning to study abroad or to apply for the Heinz Accelerated Masters Program will have a very different curriculum map and should consult early – and often – with the Academic Advisor.

** This course should be taken as the first course in the Decision Science sequence. It is intended for students in their first or second year; it is offered in Spring semesters. It may be taken as late as the junior year.

Additional Major in Decision Science

Students who elect Decision Science as an additional major must fulfill all of the requirements of the Decision Science major.

Students pursuing Global Politics with an additional major in Decision Science may only count 36-202, 88-220, and 88-251 toward the completion of both majors.

Students pursuing Policy and Management with an additional major in Decision Science and may only count 36-202, 88-220, 88-223, and 88-251 toward the completion of both majors.

Additional majors cannot count menu electives toward simultaneously fulfilling more than one major or minor. Students who are interested in an additional major in Decision Science should see the Academic Advisor of the Decision Science program.

The Major in Global Politics

Kiron K. Skinner, Faculty Director
Office: Porter Hall 223H
Traci E. Sebastian, Academic Advisor
Office: Baker Hall A60C

Global politics is about the intersection of politics, markets, culture, and technology; the declining significance of the distinction between domestic politics and international relations; the challenges from migration, economic and political transitions, disease, environmental changes, and war; and the often transcendent power of identity, ideology, nationalism, religion, culture, and technology on state and non-state actors. No single discipline can fully grapple with what it means to live in a global society, but analytical social science provides important insights.

Students majoring in Global Politics will become conversant in the theoretical underpinnings of the study of international relations. They will also be trained to apply analytical tools such as rational choice theory, political history, economic analysis, and theories of behavioral decision-making to enduring problems in the global system.

The seven Global Politics core courses are rooted in analytical social science. Courses in decision processes in American political institutions, empirical research methods, and quantitative analysis provide a context for the study of international politics and political economy.

Global Politics students will also select five elective courses from three categories: International Political Economy, International Politics, and International Cultures. Courses in the International Political Economy and International Politics categories examine the interaction of political and economic forces in the international system, as well as the impact of national security issues on interstate and intrastate relations. The courses in these categories also prepare students to think systematically about the role of transnational forces in the international system. The International Cultures category is intended to inform the understanding of global political systems by examining the cultural underpinnings of modern societies.

As language study and international experiences are key elements to comprehending the context of global issues, Global Politics students are strongly encouraged to study abroad and to pursue competency in a second language. It is expected that students will have studied at least one foreign language through the 200-level; this will be especially important for students planning to study abroad.

The Global Politics major prepares students for more informed and effective participation in global society, as well as for a wide array of careers. Global Politics provides a valuable background for those pursuing careers domestically or abroad in business, government, international development, the nonprofit sector, or in multinational organizations. The major also provides a solid preparation for graduate study in international relations, law, public policy, business, and political science.

Prerequisites

All Global Politics majors must complete mathematics and statistics prerequisites (see below) by the end of the sophomore year.

Mathematics and Statistics Prerequisites 19-29 units

21-111 Calculus I AND 21-112 Calculus II (10 units each)
OR

21-120 Differential and Integral Calculus (10 units)

36-201 Statistical Reasoning and Practice

Curriculum 108 units

Core Courses 63 units

36-202 Statistical Methods
88-104 Decision Processes in American Political Institutions
88-205 Comparative Politics
88-220 Policy Analysis I
88-221 Policy Analysis II
88-251 Empirical Research Methods
88-326/
79-350 Theories of International Relations

Electives 45 units

Students will select five courses from the following categories. Students must take at least one course from each category, with no more than two courses from any given category. At least two of

these courses (18 units) must be from the Department of Social and Decision Sciences (88-xxx). Most courses listed below are 9-unit courses, but some are fewer. When courses offered for fewer than 9 units are chosen, students should note that a minimum of 45 units is required, and should plan to take one or more additional courses as appropriate.

1. International Political Economy

70-365 International Trade and International Law
70-430 International Management
73-371 International Trade and Economic Development
73-372 International Money and Finance
79-301 African Entrepreneurs/Entrepreneurs in Africa: Past, Present, and Future
80-136 Social Structure, Public Policy and Ethical Dilemmas
80-244 Environmental Ethics
80-340 Management, Environment and Ethics
80-348 Health, Development, and Human Rights
80-447 Global Justice
88-378 International Economics
88-410 The Global Economy: A User's Guide
88-411 The Rise of the Asian Economies

2. International Politics

88-329/
79-231 American Foreign Policy
88-357 Comparative Foreign Policy
88-358 Policy Making Institutions
88-359 Globalization
88-370 African Politics
88-384 Conflict and Conflict Resolution in International Relations

3. International Cultures

300-level language course (at most one for this category)

70-342 Managing Across Cultures
76-318 Communicating in the Global Marketplace
76-322 Global Masala: South Asians in the Diaspora
76-449 Culture and Globalization
79-205 20th Century Europe
79-212 Disastrous Encounters: Technology and the Environment in Global Historical Context
79-233 The US and Middle East Since 1945
79-248 History and Theory of Property
79-258 Introduction to African History
79-260 Mayan America
79-263 From Soil to Oil: Energy, Ecology, and Globalization
79-264 China's Neighbors
79-271 Modern China
79-276 North of the Border: Mexican Immigration Past and Present
79-278 China's Environmental Crisis
79-281 Russian History: From Communism to Capitalism
79-288 Bananas, Baseball, and Borders: A History of Latin America-US Relations
79-290 Between Revolutions: The Development of Modern Latin America
79-294 The Marking of the African Diaspora in the New World
79-295 Germany and World War II
79-307 The Anthropology of Europe
79-314 Nationalities and the New States of the Former USSR
79-336 Epidemic Disease and Public Health
79-340 History of Modern Warfare
79-342 Introduction to Science and Technology Studies
79-352 The Arab-Israeli Condition: War and Peace
79-380 Experiencing Globalization
79-397 Religion and Politics in the Middle East
82-304 Francophone World
82-323 Germany, Austria and Switzerland in the 20th Century
82-324 Contemporary Germany, Austria and Switzerland
82-325 Introduction to German Studies
82-333 Introduction to Chinese Language and Culture
82-342 Spain: Language and Culture
82-343 Latin America: Language and Culture
82-345 Introduction to Hispanic Literary and Cultural Studies
82-404 Francophone Realities: Africa
82-424 New Germany
82-431 China and the West
82-432 Popular Culture in China
82-441 Studies in Peninsular Literature and Culture
82-451 Studies in Latin American Literature and Culture
82-455 Topics in Hispanic Studies
82-474 Topics in Japanese Studies

NOTE: Some courses have additional prerequisites.

Global Politics, B.S.

Sample curriculum*

Freshman or Sophomore Year	
Fall	Spring
Decision Processes in American Political Institutions** 88-104	Statistical Methods 36-202
Open Prerequisite	Open Prerequisite
Gen Ed or Elective	Gen Ed or Elective
Gen Ed or Elective	Gen Ed or Elective
Gen Ed or Elective	Gen Ed or Elective

Junior Year		Senior Year	
Fall	Spring	Fall	Spring
Theories of International Relations 88-326	Comparative Politics 88-205	Global Politics Elective	Global Politics Elective
Policy Analysis I 88-220	Policy Analysis II 88-221	Global Politics Elective	Global Politics Elective
Global Politics Elective	Empirical Research Methods 88-251	Elective or Honors Thesis	Elective or Honors Thesis
Elective	Elective	Elective	Elective
Elective	Elective	Elective	Elective

*This is presented as a two-year (junior–senior) plan for completing major requirements, with the exceptions of 88-104 and 36-202. Its purpose is to show that this program can be completed in as few as two years; not that it must be. Students may enter their major, and begin major course requirements, as early as the start of the sophomore year, and in some instances in the freshman year. Students should consult their advisor when planning their program.

** This course should be taken as the first course in the Global Politics sequence. It is intended for students in their first or second year.

Global Politics, B.S.

Sample curriculum for students who wish to study abroad*

Freshman or Sophomore Year	
Fall	Spring
Decision Processes in American Political Institutions** 88-104	Statistical Methods 36-202
Open Prerequisite	Open Prerequisite
Gen Ed or Elective	Gen Ed or Elective
Gen Ed or Elective	Gen Ed or Elective
Gen Ed or Elective	Gen Ed or Elective
Gen Ed or Elective	Gen Ed or Elective

Junior Year		Senior Year	
Fall	Spring	Fall	Spring
Theories of International Relations 88-326	Study Abroad Semester (taking two GP electives)	Policy Analysis I 88-220	Policy Analysis II 88-221
Global Politics Elective	Global Politics Elective	Global Politics Elective	Comparative Politics 88-205
Elective	Global Politics Elective	Global Politics Elective	Empirical Research Methods 88-251
Elective	Elective	Elective or Honors Thesis	Elective or Honors Thesis
Elective	Elective	Elective	Elective

*All students are strongly encouraged to spend a semester on a study abroad program, and this plan demonstrates that students can still complete the program in a few as two years, with the exceptions of 88-104 and 36-202. Planning and consultation with their advisor and the Study Abroad Office are essential. Students may enter their major, and begin major course requirements, as early as the start of the sophomore year, and in some instances in the freshman year.

** This course should be taken as the first course in the Global Politics sequence. It is intended for students in their first or second year.

Additional Major

Students who elect Global Politics as part of an additional major must fulfill all of the requirements of the Global Politics major.

Students pursuing Decision Science with an additional major in Global Politics may only count 36-202, 88-220, and 88-251 toward the completion of both majors.

Students pursuing Policy and Management with an additional major in Global Politics may only count 36-202, 88-220, 88-221, and 88-251 toward the completion of both majors.

Additional majors cannot count menu electives toward simultaneously fulfilling more than one major or minor.

The Major in Policy and Management

Paul Fischbeck, Director
Office: Porter Hall 208F
Connie Angermeier, Academic Advisor
Office: Porter Hall 208A

The Policy and Management major prepares students for key decision-making and management roles in government, the non-profit sector, and business. The major emphasizes analytic approaches to decision making, management, and organization, and combines such knowledge with the practical skills necessary for graduates to excel in both the public and private sectors. The multidisciplinary curriculum merges frontier knowledge on both the ideals of decision making, policy, and organization, as well as the realities of individual and organizational behavior that must be confronted if high-quality outcomes are going to be attained.

The major is comprised of four clusters of courses. The Analytic Methods requirement consists of four courses that provide theoretical training and practical experience in problem solving and decision making. These courses provide systematic methods for dealing with the complexities that make decisions difficult, ranging from incorporating issues of risk and uncertainty in decision making to dealing with choices that have mutually conflicting objectives. For example, a business or government agency may need to decide on a policy for mitigating the uncertain impacts of air pollution while simultaneously trying to minimize the costs of such a policy on manufacturing. A firm might want to consider the uncertain reductions in security dangers from alternative policies to protect against terrorism. In this requirement, students will gain an appreciation of the economic analysis of complex decisions, as well as the trade-off between economic and political-based decision making.

The Organizational Context requirement is a course that emphasizes the analysis of how people organize and coordinate their behavior to perform complex tasks that are beyond the capability of any single individual. The course uses a multidisciplinary approach to analyze the potential shortcomings of large organizations, such as inertia, group-think, coordination failure, and bureaucratic infighting.

The Research Methods requirement is comprised of two courses focused on key methods for collecting and analyzing data that are needed to make informed decisions. Students learn to use interviews, surveys, experiments, and econometric methods to enhance their ability to test existing, and design new, policies.

Finally, the Electives requirement consists of five courses chosen by the student, in coordination with the Academic Advisor, to add depth and breadth to the major. These courses are chosen from five categories that emphasize different aspects of decision making and management: (1) policy making, (2) management, (3) technology and information, (4) international policy, and (5) political science and law. The selected courses may be from one category or from any combination of categories.

The Policy and Management major provides an excellent combination of theoretical and practical skills for students who intend to seek managerial positions. Because of its strong analytic orientation, it is also an excellent major for those who intend to go on to professional school programs in law, business, or public policy. It is also an appropriate choice for students pursuing graduate degrees in economics, political science, or decision science. One such graduate option is the accelerated masters program offered by the H. J. Heinz III School of Public Policy and Management, in which a student earns both a B.S. in Policy and Management and a M.S. in Public Policy and Management in five years.

Prerequisites

All Policy and Management majors must complete mathematics and statistics prerequisites (see below), by the end of the sophomore year.

Mathematics Prerequisites	(19-30 units)
21-111 Calculus I <u>AND</u> 21-112 Calculus II	(10 units each)
OR	
21-120 Differential and Integral Calculus	(10 units)
21-122 Integration, Differential Equations and Approximation	(10 units)
OR	
21-256 Multivariate Analysis and Approximation	(9 units)

Statistics Prerequisite

36-201 Statistical Reasoning and Practice (9 units)

Curriculum 111 units

Analytical Methods 39 units

88-220 Policy Analysis I
88-221 Policy Analysis II
88-222 Policy Analysis III
88-223 Decision Analysis and Decision Support Systems

Organizational Context 9 units

88-260 Organizations

Research Methods 18 units

36-202 Statistical Methods
88-251 Empirical Research Methods

Electives 45 units

Complete five courses from the following categories of courses. Most courses listed below are 9-unit courses, but some are less. When courses offered for less than 9 units are chosen, students should note that a minimum of 45 units is required, and should plan to take one or more additional courses as appropriate. The selected courses may be from one category or from any combination of categories.

At least three of these courses (27 units) must be Social and Decision Sciences courses (88-xxx).

1. Policy Making

73-340 Labor Economics
73-352 Public Economics
73-357 Regulation: Theory and Policy
73-420 Monetary Theory and Policy
79-329 Sex, Population, and Birth Control
79-335 Drug Use and Drug Policy
79-337 Educational Policy in Historical Perspective
80-321 Causation and Social Policy
80-346 Value, Fact, & Policy
88-202 History of Public Policy in the United States
88-346 Environmental History and Politics Since Silent Spring
88-358 Policy Making Institutions
88-412 Economics of Global Warming
88-444 Public Policy and Regulation

2. Management

70-332 Business and Society
70-342 Managing Across Cultures
70-430 International Management
80-241 Ethical Judgments in Professional Life
80-242 Conflict and Dispute Resolution
80-243 Business Ethics
80-244 Environmental Ethics
80-344 Management, Environment, and Ethics
88-341 Organizational Communication
88-343 Economics of Technological Change
88-360 Behavioral Economics
88-385 Managerial Decision Making
88-387 Social Norms and Economics

3. Technology and Information

19-402 Telecommunications Policy
19-448 Science, Technology and Ethics
73-474 The Economics of Ideas: Growth, Innovation, and Intellectual Property
79-230 Technology in American Society
79-340 History of Modern Warfare
79-342 Introduction to Science and Technology Studies
80-341 Computers, Society, and Ethics
88-343 Economics of Technological Change
88-345 Perspectives on Industrial Research and Development
88-347 Complex Technological Systems: Past, Present and Future
88-371 Entrepreneurship, Technological Change, and Regulation
88-391 Technology and Economic Growth

4. International Policy

- 79-278 China’s Environmental Crisis
- 88-378 International Economics
- 88-370 African Politics
- 88-384 Conflict and Conflict Resolution in International Relations
- 88-410 The Global Economy: A User’s Guide
- 88-411 The Rise of the Asian Economies
- 88-412 Economics of Global Warming

5. Political Science and Law

- 70-364 Business Law
- 70-365 Intl Trade and Intl Law
- 80-235 Political Philosophy
- 80-242 Conflict and Dispute Resolution
- 88-181 Topics in Law: 1st Amendment*
- 88-184 Topics in Law: The Bill of Rights*
- 88-202 History of Public Policy in the United States
- 88-346 Environmental History and Politics Since Silent Spring
- 88-358 Policy Making Institutions
- 88-444 Public Policy and Regulation

*only one course (either 88-181 or 88-184) may count toward an elective requirement in the Policy and Management major.

NOTE: Some courses have additional prerequisites.

Policy and Management, B.S.

Sample Curriculum*

Freshman or Sophomore Year	Junior Year	
	Spring	Spring
	Fall	Spring
36-202 Statistical Methods	Policy Analysis I 88-220	Policy Analysis II 88-221
Open Prerequisite	Organizations 88-260	Empirical Research Methods 88-251
Open Prerequisite	Elective	Decision Analysis & Decision Support Systems 88-223
Elective	Elective	Elective
Elective	Elective	Elective

Senior Year	
Fall	Spring
Policy Analysis III 88-222 or P&M Elective	Policy Analysis III 88-222 or P&M Elective
Policy and Management Elective	Policy and Management Elective
Policy and Management Elective	Policy and Management Elective
Elective	Elective
Elective	Elective

*This is presented as a two-year (junior-senior) plan for completing major requirements. Its purpose is to show that this program can be completed in as few as two years; not that it must be. Students may enter their major, and begin major course requirements, as early as the start of the sophomore year, and in some instances in the first year. Students should consult their advisor when planning their program. Students who are planning to study abroad or to apply for the Heinz Accelerated Masters Program will have a very different curriculum map and should consult early—and often—with the Academic Advisor.

Additional Major

Students who elect Policy and Management as an additional major must fulfill all of the requirements of the Policy and Management major.

Students pursuing Decision Science with an additional major in Policy and Management may only count 36-202, 88-220, 88-223, and 88-251 toward the completion of both majors.

Students pursuing Global Politics with an additional major in Policy and Management may only count 36-202, 88-220, 88-221, and 88-251 toward the completion of both majors.

Additional majors cannot count menu electives toward simultaneously fulfilling more than one major or minor. Students who are interested in an additional major in Policy and Management should see the Academic Advisor of the Policy and Management program.

The Minor in Decision Science

Baruch Fischhoff, Faculty Director
Office: Porter Hall 219E
Connie Angermeier, Academic Advisor
Office: Porter Hall 208A

The minor in Decision Science provides students with a selective survey of disciplinary perspectives. The courses present descriptive and normative approaches to judgment and decision making, as well as some application of theories and results to real-world problems. Students who elect Decision Science as a minor must complete the four core courses (below) and two electives from the elective set (below).

Curriculum 54 units

Core Courses 36 units

- 88-120 Reason, Passion, and Social Cognition
- 88-220 Policy Analysis I
- 88-223 Decision Analysis and Decision Support Systems
- 88-302 Behavioral Decision Making

Elective Courses 18 units

Complete any two courses from the following categories.

1. Biological and Behavioral Aspects of Decision Making

- 85-219 Biological Foundations of Behavior
- 85-241 Social Psychology
- 85-352 Evolution Psychology
- 85-355 Introduction to Cognitive Neuroscience
- 85-414 Cognitive Neuropsychology
- 85-442 Health Psychology
- 88-307 Irrationality
- 88-360 Behavioral Economics
- 88-377 Attitudes and Persuasion
- 88-386 Desires and Decisions
- 88-407 Health Risk Communication

Appropriate courses offered by the Department of Neuroscience at the University of Pittsburgh (available during the academic year through cross-registration) may also be included as part of this option. Contact the Decision Science faculty director for more information.

2. Managerial and Organizational Aspects of Decision Making

- 70-332 Business, Society and Ethics
- 70-381 Marketing
- 70-481 Marketing Research
- 88-221 Policy Analysis II
- 88-222 Policy Analysis III
- 88-341 Organizational Communication
- 88-444 Public Policy & Regulation

3. Philosophical and Ethical Perspectives on Decision Making

- 19-426 Environmental Decision Making
- 80-208 Critical Thinking
- 80-241 Ethical Judgments in Professional Life
- 80-242 Conflict, Dispute Resolution
- 80-271 Philosophy and Psychology
- 80-305 Rational Choice
- 80-321 Causation and Social Policy
- 80-340 Environmental Ethics and Decision Making
- 80-346 Value Fact and Policy

4. Economic and Statistical and Methods for Decision Science

73-325	Strategic Behavior in Non-cooperative Games
73-347	Game Theory for Economists
73-435	Economics of Negotiations
80-316	Causation Probability & AI
80-405	Game Theory*
88-316	Game Theory*
88-360	Behavioral Economics
88-387	Social Norms and Economics

*80-405 and 88-316 are different courses and are not cross-listed.

5. Research Methods for Decision Science

36-303	Sampling, Survey and Society
36-310	Fundamentals of Statistical Modeling
80-330	Research Ethics
85-340	Research Methods in Social Psychology

Note: Some courses have additional prerequisites.

The Minor in Global Politics

Kiron K. Skinner, Faculty Director
Office: Porter Hall 223H
Traci E. Sebastian, Academic Advisor
Office: Baker Hall A60C

The minor in Global Politics introduces students to the study of global and international relations through the lens of analytical social science. Through a combination of core courses and electives, students will become conversant not only in the fundamental theories and concepts of global and international relations, but also in analytical tools that can help to understand, assess, and predict the behavior of actors within the global political system.

Curriculum

54 units

Required Courses

27 units

88-104	Decision Processes in American Political Institutions
88-205	Comparative Politics
88-326/	
79-350	Theories of International Relations

Electives

27 units

Students will select three courses from the following categories, with one course from each category. At least one of these courses (9 units) must be from the Department of Social and Decision Sciences (88-xxx). Most courses listed below are 9-unit courses, but some are fewer. When courses offered for fewer than 9 units are chosen, students should note that a minimum of 27 units is required, and should plan to take one or more additional courses as appropriate.

1. International Political Economy

70-365	International Trade and International Law
70-430	International Management
73-371	International Trade and Economic Development
73-372	International Money and Finance
79-301	African Entrepreneurs/Entrepreneurs in Africa: Past, Present, and Future
80-136	Social Structure, Public Policy and Ethical Dilemmas
80-244	Environmental Ethics
80-340	Management, Environment and Ethics
80-348	Health, Development, and Human Rights
80-447	Global Justice
88-378	International Economics
88-410	The Global Economy: A User's Guide
88-411	The Rise of the Asian Economies

2. International Politics

88-329/	
79-231	American Foreign Policy
88-357	Comparative Foreign Policy
88-358	Policy Making Institutions
88-359	Globalization
88-370	African Politics
88-384	Conflict and Conflict Resolution in International Relations

3. International Cultures

300-level language course

70-342	Managing Across Cultures
76-318	Communicating in the Global Marketplace
76-322	Global Masala: South Asians in the Diaspora
76-449	Culture and Globalization
79-205	20th Century Europe
79-212	Disastrous Encounters: Technology and the Environment in Global Historical Context
79-233	The US and Middle East Since 1945
79-248	History and Theory of Property
79-258	Introduction to African History
79-260	Mayan America
79-263	From Soil to Oil: Energy, Ecology, and Globalization
79-264	China's Neighbors
79-271	Modern China
79-276	North of the Border: Mexican Immigration Past and Present
79-278	China's Environmental Crisis
79-281	Russian History: From Communism to Capitalism
79-288	Bananas, Baseball, and Borders: A History of Latin America-US Relations
79-290	Between Revolutions: The Development of Modern Latin America
79-294	The Marking of the African Diaspora in the New World
79-295	Germany and World War II
79-307	The Anthropology of Europe
79-314	Nationalities and the New States of the Former USSR
79-336	Epidemic Disease and Public Health
79-340	History of Modern Warfare
79-342	Introduction to Science and Technology Studies
79-352	The Arab-Israeli Condition: War and Peace
79-380	Experiencing Globalization
79-397	Religion and Politics in the Middle East
82-304	Francophone World
82-323	Germany, Austria and Switzerland in the 20th Century
82-324	Contemporary Germany, Austria and Switzerland
82-325	Introduction to German Studies
82-333	Introduction to Chinese Language and Culture
82-342	Spain: Language and Culture
82-343	Latin America: Language and Culture
82-345	Introduction to Hispanic Literary and Cultural Studies
82-404	Francophone Realities: Africa
82-424	New Germany
82-431	China and the West
82-432	Popular Culture in China
82-441	Studies in Peninsular Literature and Culture
82-451	Studies in Latin American Literature and Culture
82-455	Topics in Hispanic Studies
82-474	Topics in Japanese Studies

NOTE: Some courses have additional prerequisites.

The Minor in Innovation, Entrepreneurship, and Economic Development

John H. Miller, Faculty Director
Office: Porter Hall 208D
Traci E. Sebastian, Academic Advisor
Office: Baker Hall A60C

The pace of technological change has been steadily increasing over the last 100 to 200 years, if not longer. The ability of nations to grow and prosper economically is dependent on their ability to harness the forces of technological change. Today it is common to speak of the knowledge economy in which the success of firms depends on their ability to manage innovation and technological change. Regions all aspire to be the next Silicon Valley and enact all kinds of policies to lure and support innovative firms. Technological change pervades our lives, entering nearly every decision we make. The goal of the minor in Innovation, Entrepreneurship, and Economic Development is to equip students to understand the forces underlying and unleashed by technological change in order to become better decision-makers, managers, policy analysts, and researchers.

The minor has been created to service students that are interested in entrepreneurship, the management of innovation, economic development, and technology policy. The minor is available to undergraduate students in all colleges. This interdisciplinary and interdepartmental minor, composed of courses offered in various departments and colleges throughout the university, is offered through the Global and International Relations Program in the College of Humanities and Social Sciences.

In order to complete the minor, students must take six courses: two core courses, and four electives. At most one of these courses may double-count with another major or minor.

Curriculum 54 units

Required Courses 18 units

At least two of the courses must come from the following list of core courses:

19-605/88-714	Science, Technology, and Innovation Policy
19-613	Industries and Technological Innovation
19-682/90-880	The Strategy and Management of Technological Innovation
79-440/88-345	Perspectives on Industrial Research and Development
88-371	Entrepreneurship, Technological Change, and Regulation in Theory and Practice
88-391/90-756	Technology and Economic Growth
88-410/90-749	The Global Economy: A User's Guide
88-411/90-752	The Rise of the Asian Economies

Electives 36 units

The other four required courses can come from the above list of core courses or the following courses that were developed in whole or part for the minor:

05-320	The Social Web: Content, Communities, and Context
08-463	Service Innovation
15-502	Technology and Global Development
17-645	Technology Innovation, Adoption and Diffusion
19-484/ 24-484	Decision Tools for Engineering Design and Entrepreneurship
60-387	Art as Business/Business as Art
79-301	African Entrepreneurs, Entrepreneurs in Africa: Past, Present, and Future
90-811	Social Innovation, Social Enterprise, Social Change (this is a mini course and counts as one half of a course)
90-845	Social Enterprise Incubator (this has been a mini course and if it remains so it will count as one-half of a course)
90-858	Microfinance and Development (this is a mini course and counts as one half of a course)

Students can also nominate up to two courses outside of the above two lists to qualify toward the six courses required for the minor. These courses must be directly relevant to the minor. A student must submit and have approved a petition for a course outside the above lists to qualify for the minor.

NOTE: Some courses have additional prerequisites.

The Minor in Policy and Management

Paul Fischbeck, Faculty Director
Office: Porter Hall 208F
Connie Angermeier, Academic Advisor
Office: Porter Hall 208A

Regardless of major, many Carnegie Mellon graduates will face managerial challenges and responsibilities in their professional lives. Whether these are in their area of expertise or in more general settings, these roles will to some degree require assumption of the responsibility for directing the work of others. The Policy and Management minor is intended for students who expect to need these management concepts and skills.

Curriculum 54 units

Required Courses 36 units

88-220	Policy Analysis I
88-221	Policy Analysis II
88-223	Decision Analysis and Decision Support Systems
88-260	Organizations

Electives 18 units

Complete two courses from the following categories.

At least one of the courses (9 units) must be a Social and Decision Sciences course (88-xxx).

1. Policy Making

73-340	Labor Economics
73-352	Public Economics
73-357	Regulation: Theory and Policy
73-420	Monetary Theory and Policy
79-329	Sex, Population, and Birth Control
79-335	Drug Use and Drug Policy
79-337	Educational Policy in Historical Perspective
80-321	Causation and Social Policy
80-346	Value, Fact, & Policy
88-202	History of Public Policy in the United States
88-346	Environmental History and Politics Since Silent Spring
88-358	Policy Making Institutions
88-412	Economics of Global Warming
88-444	Public Policy and Regulation

2. Management

70-332	Business and Society
70-342	Managing Across Cultures
70-430	International Management
80-241	Ethical Judgments in Professional Life
80-242	Conflict and Dispute Resolution
80-243	Business Ethics
80-244	Environmental Ethics
80-344	Management, Environment, and Ethics
88-341	Organizational Communication
88-343	Economics of Technological Change
88-360	Behavioral Economics
88-385	Managerial Decision Making
88-387	Social Norms and Economics

3. Technology and Information

19-402	Telecommunications Policy
19-448	Science, Technology and Ethics
73-474	The Economics of Ideas: Growth, Innovation, and Intellectual Property
79-230	Technology in American Society
79-340	History of Modern Warfare
79-342	Introduction to Science and Technology Studies
80-341	Computers, Society, and Ethics
88-343	Economics of Technological Change
88-345	Perspectives on Industrial Research and Development
88-347	Complex Technological Systems: Past, Present and Future
88-371	Entrepreneurship, Technological Change, and Regulation
88-391	Technology and Economic Growth

4. International Policy

79-278	China's Environmental Crisis
88-378	International Economics
88-370	African Politics
88-384	Conflict and Conflict Resolution in International Relations
88-410	The Global Economy: A User's Guide
88-411	The Rise of the Asian Economies
88-412	Economics of Global Warming

5. Political Science and Law

70-364	Business Law
70-365	Intl Trade and Intl Law
80-235	Political Philosophy
80-242	Conflict and Dispute Resolution
88-181	Topics in Law: 1st Amendment*
88-184	Topics in Law: The Bill of Rights*
88-202	History of Public Policy in the United States
88-346	Environmental History and Politics Since Silent Spring
88-358	Policy Making Institutions
88-444	Public Policy and Regulation

*only one course (either 88-181 or 88-184) may count toward an elective requirement in the Policy and Management minor.

NOTE: Some courses have additional prerequisites.

Faculty

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Faculty by Courtesy Appointment

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