Department of Social and Decision Sciences

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, private, and non-profit sectors and in advanced graduate 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 Behavioral Economics, Policy and Organizations, in Decision Science, and in Policy and Management. The core courses leverage our strength in decision analysis, decision making, empirical research, 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 and 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 their 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 Behavioral Economics, Policy and Organizations

Saurabh Bhargava, Faculty Director
Office: Porter Hall 319F
Email: DS-advisor@andrew.cmu.edu
Lizzy Stoyte, Academic Advisor
Office: Porter Hall 208G
Email: estoyle@andrew.cmu.edu

The interdisciplinary field of Behavioral Economics integrates perspectives from Economics and Psychology to understand and predict human behavior in economic contexts. There has been an explosion of interest from government agencies to incorporate the insights from behavioral economics into the design of public policy and in an executive order, President Obama urged government agencies to recruit behavioral economists. All types of organizations are increasingly relying on behavioral economics to improve their organizational effectiveness and profitability.

The Department of Social and Decision Sciences’ (SDS) exceptional faculty in Behavioral Economics is at the forefront of research and teaching in this field and regularly consult with government and business on topics such as the impact of predatory lending practices on public welfare, how to design institutional practices to reduce the biases of stock traders, the design of interventions to motivate employees, how the government can increase institutional practices to reduce the biases of stock traders, the design of interventions to motivate employees, how the government can increase the influence of behavioral economics in the Wild. Students will be well equipped to enter a wide range of professions and graduate degree programs.

Prerequisites

All Behavioral Economics, Policies and Organization majors must complete mathematics and statistics prerequisites (see below), by the end of the sophomore year.

Mathematics Prerequisite Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-111-21-112 Differential Calculus</td>
<td>10-20</td>
</tr>
<tr>
<td>or 21-120 Differential and Integral Calculus</td>
<td></td>
</tr>
</tbody>
</table>

Students who successfully pass the proctored Calculus Assessment on campus or who receive credit through accepted standardized exams (such as AP, IB, or Cambridge) at the 21-120 or 21-122 levels will be required to take a more advanced 21-xxx course for this prerequisite. 21-122, 21-240, or 21-256 are suggested.

Statistics Prerequisite Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>36-200 Reasoning with Data</td>
<td>9</td>
</tr>
<tr>
<td>or 36-201 Statistical Reasoning and Practice</td>
<td></td>
</tr>
</tbody>
</table>

Curriculum

The core curriculum in Behavioral Economics, Policy and Organizations consists of three quantitative courses, two Economic courses, two Psychology courses, two Behavioral Economics courses, and one project course.

Quantitative Method Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>36-202 Methods for Statistics and Data Science</td>
<td>9</td>
</tr>
<tr>
<td>88-251 Empirical Research Methods</td>
<td>9</td>
</tr>
</tbody>
</table>

| Units 27 |

Economics Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>73-102 Principles of Microeconomics</td>
<td>9</td>
</tr>
<tr>
<td>73-160 Foundations of Microeconomics: Applications and Theory</td>
<td>9</td>
</tr>
<tr>
<td>or 73-230 Intermediate Microeconomics</td>
<td></td>
</tr>
</tbody>
</table>

| Units 18 |

Psychology Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>88-120 Reason, Passion and Cognition</td>
<td>9</td>
</tr>
<tr>
<td>88-302 Behavioral Decision Making</td>
<td>9</td>
</tr>
</tbody>
</table>

| Units 18 |

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

Behavioral Economics Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>88-360 Behavioral Economics</td>
<td>9</td>
</tr>
<tr>
<td>88-367 Behavioral Economics in the Wild</td>
<td>9</td>
</tr>
</tbody>
</table>

| Units 18 |

Senior Project Course

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>88-453 Behavioral Economics, Policy, and Organizations Capstone</td>
<td>9</td>
</tr>
</tbody>
</table>

| Units 9 |

Electives 36 units

Complete at least 36 units from the following categories. Students MUST take one elective from each of the three categories. The fourth elective may be chosen from any of the categories. Note that not all elective courses are offered every year.

Economics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>73-328 Health Economics</td>
<td>12</td>
</tr>
<tr>
<td>73-348 Behavioral Economics</td>
<td>9</td>
</tr>
<tr>
<td>73-408 Law and Economics</td>
<td>9</td>
</tr>
<tr>
<td>73-476 American Economic History</td>
<td>9</td>
</tr>
</tbody>
</table>

| Units |
** Students can petition that any 73-3XX or 73-4XX courses be counted as an economic elective course. Consult the Academic Advisor for more information.

Behavioral Economics Units
73-348 Behavioral Economics 9
88-255 Behavioral and Applied Game Theory 9
88-365 Behavioral Economics and Public Policy 9
88-366 Behavioral Economics of Poverty and Development 9
88-406 Behavioral Economics in Organizations 9
88-409 Behavioral Economics Perspectives on Ethical Issues 9

Psychology Units
70-311 Organizational Behavior 9
70-385 Consumer Behavior 9
85-352 Evolutionary Psychology 9
85-358 Pro-Social Behavior 9
85-375 Crosscultural Psychology 9
85-377 Attitudes and Persuasion 9
85-442 Health Psychology 9
88-230 Human Intelligence and Human Stupidity 9
88-342 The Neuroscience of Decision Making 9
88-380 Dynamic Decisions 9
88-388 Psychological Models of Decision Making 9
88-435 Decision Science and Policy 9

Note: Some courses have additional prerequisites.

### Behavioral Economics, Policy and Organization, B.A. Sample Curriculum

#### Freshman

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-120</td>
<td>Differential and Integral Calculus (Or 21-111, depending on placement)</td>
<td>36-202</td>
<td>Methods for Statistics and Data Science</td>
</tr>
<tr>
<td></td>
<td>21-121</td>
<td>88-251</td>
<td>Empirical Research Methods</td>
</tr>
<tr>
<td>Pick One</td>
<td>(Freshman Seminar, 76-101, 79-104)</td>
<td>73-160</td>
<td>Foundations of Microeconomics: Applications and Theory***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>88-360</td>
<td>Behavioral Economics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>88-302</td>
<td>Behavioral Decision Making</td>
</tr>
<tr>
<td>36-200</td>
<td>Reasoning with Data Or 36-201</td>
<td>Pick Two</td>
<td>(Freshman Seminar, 76-101, 79-104)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gen Ed or Elective</td>
<td>88-367 Behavioral Economics in the Wild</td>
</tr>
<tr>
<td>88-120</td>
<td>Reason, Passion and Cognition *</td>
<td>Gen Ed or Elective</td>
<td>Elective or BEPO Elective</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>73-102 Principles of Microeconomics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gen Ed or Elective</td>
<td>Gen Ed or Elective</td>
</tr>
</tbody>
</table>

#### Sophomore

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEPO Elective</td>
<td>BEPO Elective</td>
<td>Senior Honors Thesis****</td>
<td>88-453 Behavioral Economics, Policy, and Organizations Capstone</td>
</tr>
<tr>
<td>BEPO Elective</td>
<td>BEPO Elective</td>
<td>Four Electives or Additional Decision Science Electives</td>
<td>Four Electives or Additional Decision Science Electives</td>
</tr>
<tr>
<td>Gen Ed</td>
<td>Gen Ed</td>
<td>Elective</td>
<td>Elective</td>
</tr>
<tr>
<td>Elective</td>
<td>Elective</td>
<td>Elective</td>
<td>Elective</td>
</tr>
</tbody>
</table>

* Should be taken as the first course in Behavioral Economics, Policy and Organizations sequence. It is intended for students in their first or second year and is offered in Fall semesters. It may be taken as late as the junior year.

*** 73-160 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.


**** Senior Honors Thesis may be substituted in the Fall term for 88-453 Behavioral Economics, Policy, and Organizations Capstone, which is only offered in the Spring term

This is presented as a recommended plan for completing major requirements. The major can be completed in as few as two years (not that it must be), but students may not have time for other opportunities such as additional majors or study abroad. Students may declare their major as early as the third week of the spring semester in the freshman year. Students who are planning to attend the Washington Semester Program, to study abroad, to apply for the Heinz Accelerated Masters Program, or to pursue an additional major/minor may have a very different curriculum map and should consult early – and often – with the Behavioral Economics, Policy and Organizations Academic Advisor.

### Additional Major

Students who elect Behavioral Economics, Policy and Organizations as an additional major must fulfill all of the requirements of the Behavioral Economics, Policy and Organizations major.

Students pursuing Decision Science with an additional major in Behavioral Economics, Policy and Organizations may only count 36-202, 73-102, 88-120, 88-251 and 88-302 toward the completion of both majors.

Students pursuing Policy and Management with an additional major in Behavioral Economics, Policy and Organizations may only count 36-202, 73-102 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 Behavioral Economics, Policy and Organizations should see the Academic Advisor of the Behavioral Economics, Policy and Organizations program.

### The Major in Decision Science

Gretchen Chapman, Faculty Director
Office: Porter Hall 219F
Email: DS-advisor@andrew.cmu.edu
Connie Angermeier and Lizzy Stoyke, Academic Advisors
Office: Porter Hall 208A and 208B
Email: cla2@andrew.cmu.edu, estoyke@andrew.cmu.edu

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 and the Academic Advisor to tailor their education to their personal needs and interests.

Carnegie Mellon is one of the leading centers for the study of Decision Science - and offers the only undergraduate major that integrates analytical and behavioral approaches to decision making. Our faculty are involved in applying Decision Science 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., reducing the effects of hindsight bias on attributions of responsibility for accidents), risk management (e.g., assessing and communicating the risks of climate change), marketing (e.g., understanding the effects of inter-temporal 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 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 present fundamental theories and results from the study of decision making, along with their application to real-world problems. They introduce 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 (e.g., evaluating theories, comparing ways of presenting information), 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 six clusters: biological and behavioral aspects of decision making, managerial and organizational aspects, philosophical and ethical perspectives, economic and statistical methods, public policy, and research methods. Students can concentrate in one area or spread their studies across them. In addition to coursework, the
Decision Sciences courses (88-xxx).

... not all elective courses are offered every year.

Complete at least 45 units of courses from the following categories. The core curriculum in Decision Science consists of two courses in empirical methods (see below), by the end of the sophomore year.

**Mathematics Prerequisite**
21-111-21-112 Differential Calculus - Integral Calculus 10-20
or 21-120 Differential and Integral Calculus

Students who successfully pass the proctored Calculus Assessment on campus or who receive credit through accepted standardized exams (such as AP, IB, or Cambridge) at the 21-120 or 21-122 levels will be required to take a more advanced 21-xxx course for this prerequisite. 21-122, 21-240, or 21-256 are suggested.

**Statistics Prerequisite**
36-200 Reasoning with Data 9
or 36-201 Statistical Reasoning and Practice

Students must take one course from the following set (or an approved alternative). Students may not count a course used to fulfill the Mathematics Prerequisite as also filling the Analytic Methods Prerequisite.

**Analytic Methods Prerequisite**
21-122 Integration and Approximation 10
21-256 Multivariate Analysis 9
21-257 Models and Methods for Optimization 9
36-309 Experimental Design for Behavioral and Social Sciences 9
36-401 Modern Regression 9
36-410 Introduction to Probability Modeling 9
80-211 Logic and Mathematical Inquiry 9
80-212 Arguments and Logical Analysis 9
80-223 Causality and Probability 9

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

**Theoretical Perspectives**
73-102 Principles of Microeconomics 9
85-211 Cognitive Psychology 9
88-120 Reason, Passion and Cognition * 9
88-223 Decision Analysis 9
88-302 Behavioral Decision Making 9

**Research Methods**
36-202 Methods for Statistics and Data Science 9
88-251 Empirical Research Methods 9

**Electives**
Complete at least 45 units of courses from the following categories. The selected courses may be from one category or from any combination. Note that not all elective courses are offered every year.

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

1. Biological and Behavioral Aspects of Decision Making
85-352 Evolutionary Psychology 9
85-377 Attitudes and Persuasion 9
85-442 Health Psychology 9

88-230 Human Intelligence and Human Stupidity 9
88-342 The Neuroscience of Decision Making 9
88-360 Behavioral Economics 9
88-365 Behavioral Economics and Public Policy 9
88-380 Dynamic Decisions 9

2. Managerial and Organization Aspects of Decision Making
70-311 Organizational Behavior 9
70-381 Marketing I 9
70-460 Mathematical Models for Consulting 9
88-150 Managing Decisions 9
88-221 Analytical Foundations of Public Policy 9
88-406 Behavioral Economics in Organizations 9
88-418 Domestic Negotiation 9
88-419 International Negotiation 9
88-444 Public Policy and Regulation 9
88-451 Policy Analysis Senior Project 12
or 88-452 Policy Analysis Senior Project

3. Philosophical and Ethical Perspectives on Decision Making
80-208 Critical Thinking 9
80-221 Philosophy of Social Science 9
80-244 Environmental Ethics 9
80-245 Medical Ethics 9
80-305 Choices, Decisions, and Games 9
80-321 Causation, Law, and Social Policy 9
88-275 Bubbles: Big Data for Human Minds 9
88-409 Behavioral Economics Perspectives on Ethical Issues 9

4. Economic and Statistical Methods for Decision Science
70-374 Data Mining & Business Analytics 9
70-455 Modern Data Management 9
70-460 Mathematical Models for Consulting 9
73-347 Game Theory for Economists 9
80-337 Philosophy, Politics & Economics 9
80-405 Game Theory * 9
88-255 Behavioral and Applied Game Theory 9
88-360 Behavioral Economics 9
88-367 Behavioral Economics in the Wild 9

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

5. Decision Science and Public Policy
84-393 Legislative Decision Making: US Congress 9
88-221 Analytical Foundations of Public Policy 9
88-365 Behavioral Economics and Public Policy 9
88-366 Behavioral Economics of Poverty and Development 9
88-405 Risk Perception and Communication 9
88-412 Energy, Climate Change, and Economic Growth in the 21st Century 9
88-430 Methods of Policy Analysis 12
88-444 Public Policy and Regulation 9
88-451 Policy Analysis Senior Project 12
or 88-452 Policy Analysis Senior Project

6. Research Methods for Decision Science
36-303 Sampling, Survey and Society 9
70-460 Mathematical Models for Consulting 9
88-319 Large-scale social phenomenon 9
88-402 Modeling Complex Social Systems 9
88-417 Scientific Integrity and Communication 9
88-435 Decision Science and Policy 9

Note: Some courses have additional prerequisites.
The Policy and Management major prepares students for key decision-making and management roles in government, non-profit organizations, and business. The major emphasizes analytic approaches to decision making and practical management 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 to be attained.

The major is comprised of four required core areas and students choose one of four concentration areas:

1. The Policy Core gives students applied economic training and policy analysis experience. 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.
2. The Management Core focuses on real-world applications of decision making. Students will develop an understanding of effective negotiation strategies and tactics, and identify the barriers and the psychological factors that may prevent decision-makers from reaching wise agreements. The 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.
3. The Empirical Core focuses 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. Students will create statistical models to address questions asked in conceptual, computational, and data-driven investigations.
4. The Calculus course gives students hands-on experience in a policy-related area. Students work in teams to apply the research and analytical methods learned in their other courses to a real-world problem.

Finally, the four concentration areas consist of four courses chosen by the student, in coordination with the Academic Advisor. The concentrations emphasize different aspects of decision making within the major: (1) Analytics, (2) Policy, (3) Management, and (4) Law. Each of the concentration areas draws upon the research and teaching strength of the Department of Social and Decision Sciences. Additionally, select courses from other areas in the University have been identified and approved as fulfilling elective requirements within the concentrations. More detail will be found in the concentration areas below.

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, statistics, and analytic methods prerequisites (see below), by the end of the sophomore year.

<table>
<thead>
<tr>
<th>Mathematics Prerequisite</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-113-21-112 Differential Calculus - Integral Calculus</td>
<td>10-20</td>
</tr>
<tr>
<td>or 21-120 Differential and Integral Calculus</td>
<td></td>
</tr>
</tbody>
</table>

Students who successfully pass the proctored Calculus Assessment on campus or who receive credit through accepted standardized exams (such as AP, IB, or Cambridge) at the 21-120 or 21-122 levels will be required to take a more advanced 21-xxx course for this prerequisite. 21-122, 21-240, or 21-256 are suggested.

<table>
<thead>
<tr>
<th>Statistics Prerequisite</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>36-200 Reasoning with Data</td>
<td>9</td>
</tr>
<tr>
<td>or 36-201 Statistical Reasoning and Practice</td>
<td></td>
</tr>
</tbody>
</table>

### Curriculum

#### Policy Core

**Units**

### Decision Science, B.S. Sample Curriculum

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Sophomore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>Fall</td>
</tr>
<tr>
<td>36-201 Statistical Reasoning and Practice</td>
<td>Pick Two (Freshman Seminar, 76-102, 79-104)</td>
</tr>
<tr>
<td>21-120 Differential and Integral Calculus (or 21-111, depending on placement)</td>
<td>Gen Ed or Elective</td>
</tr>
<tr>
<td>73-102 Principles of Microeconomics</td>
<td>Gen Ed or Elective</td>
</tr>
<tr>
<td>Pick One (Freshman Seminar, 76-101, 79-104)</td>
<td>Gen Ed or Elective</td>
</tr>
</tbody>
</table>

#### Junior | Senior

| Fall | Fall | Spring | Spring |
| Decision Science elective | 88-223 Decision Analysis | Senior Honors Thesis or Elective | Senior Honors Thesis or Elective |
| Decision Science elective | Decision Science elective | Four Electives or additional Decision Science electives | Four Electives or additional Decision Science electives |
| Gen Ed | Gen Ed | Elective | Elective |
| Elective | Elective |

* 88-120 should be taken as the first course in the Decision Science sequence. It is intended for student in their first or second year; it is offered in Fall semesters. It may be taken as late as the junior year.

This is presented as a recommended plan for completing major requirements. The major can be completed in as few as two years (not that it must be), but students may not have time for other opportunities such as additional majors or study abroad. Students may declare their major as early as the third week of the fall semester in the freshman year. Students who are planning to attend the Washington Semester Program, to study abroad, to apply for the Heinz Accelerated Masters Program, or to pursue an additional major/minor may have a very different curriculum map and should consult early – and often – with the Decision Science Academic Advisor.

Students are encouraged to consider the Washington Semester Program as part of their education. Suitable courses will be considered as fulfilling requirements of electives in the major. Please send the course syllabus, along with a note explaining how the course addresses fundamental aspects of decision science in one of the six elective categories.

### 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 Behavioral Economics, Policy and Organizations with an additional major in Decision Science may only count 36-202, 73-102, 88-120, 88-251 and 88-302 toward the completion of both majors.

Students pursuing Policy and Management with an additional major in Decision Science and may only count 36-202, 73-102, 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 Policy and Management

Christina Fong, Faculty Director  
Office: Porter Hall 223I  
Email: P-and-M-advisor@andrew.cmu.edu

Connie Angermeier, Academic Advisor  
Office: Porter Hall 208A  
Email: cla2@andrew.cmu.edu

**Curriculum**

- Policy Core

**Units**
for information about getting approval for Heinz course registration

* other Heinz courses are also approved. Please talk with the P&M advisor for information about getting approval for Heinz course registration

3. Management Concentration (four total courses) Units Students select four courses; two of the four must be 88xxx

88-431 Organizational Communication 9
88-406 Behavioral Economics in Organizations 9
88-411 Rise of the Asian Economies 9
88-418 Domestic Negotiation (if not taken in Empirical Core) 9
88-419 International Negotiation (if not taken in Empirical Core) 9
70-311 Organizational Behavior 9
70-318 Managing Effective Work Teams 9
70-332 Business, Society and Ethics 9
70-342 Managing Across Cultures 9
70-371 Operations Management 9
70-381 Marketing I 9
70-430 International Management 9
80-344 Management, Environment, and Ethics 9

4. Law Concentration (four total courses) Units Students select four courses; one of the four must be 88xxx

88-281 Topics in Law: 1st Amendment 9
88-284 Topics of Law: The Bill of Rights 9
70-364 Business Law 9
70-365 International Trade and International Law 9
73-408 Law and Economics 9
80-321 Causation, Law, and Social Policy 9
80-247 Ethics and Global Economics 9
80-447 Global Justice 9
84-393 Legislative Decision Making: US Congress 9
84-402 Judicial Politics and Behavior 9

NOTE: Some courses have additional prerequisites.

Policy and Management, B.S. Sample Curriculum

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Sophomore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>Spring</td>
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<td>73-102 Principles of Microeconomics</td>
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<td>Gen Ed or Elective</td>
</tr>
<tr>
<td>Gen Ed or Elective</td>
<td>Gen Ed or Elective</td>
</tr>
</tbody>
</table>
Advisor of the Policy and Management program.

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

Students pursuing Decision Science with an additional major in Policy and
Management may only count 36-202, 73-102, 88-223, and 88-251 toward
additional Policy & Management concentration electives.

Students pursuing Behavioral Economics, Policy, and Organizations with an
additional major in Policy and Management may only count 36-202, 73-102,
and 88-251 (and 88-251, if taken in Empirical Core) 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

Gretchen Chapman, Faculty Director  
Office: Porter Hall 219F  
Email: DS-advisor@andrew.cmu.edu

Connie Angermeier, Academic Advisor  
Office: Porter Hall 208A  
Email: claz@andrew.cmu.edu

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).

Students may double-count one course with another major/minor.

### Curriculum

#### Core Courses  
54 units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>73-102</td>
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<tr>
<td>88-120</td>
<td>9</td>
</tr>
<tr>
<td>88-223</td>
<td>9</td>
</tr>
<tr>
<td>88-302</td>
<td>9</td>
</tr>
</tbody>
</table>

#### Elective Courses  
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).

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>85-352</td>
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<tr>
<td>85-377</td>
<td>9</td>
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<tr>
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### Additional Major

Students who elect Policy and Management as an additional major must
fulfill all of the requirements of the Policy and Management major. For
additional majors in Policy and Management, courses taken as concentration
electives may not count toward the student's primary major or other
program.

Students pursuing Behavioral Economics, Policy, and Organizations with an
additional major in Policy and Management may only count 36-202, 73-102,
and 88-251 (and 88-251, if taken in Empirical Core) toward the completion
of both majors.

Students pursuing Decision Science with an additional major in Policy and
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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).

Students may double-count one course with another major/minor.

### Curriculum

#### Core Courses  
36 units

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Students pursuing Decision Science with an additional major in Policy and
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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.

This is presented as a recommended plan for completing major
requirements. Students may declare their major as early as the third week
of the spring semester in the freshman year. Students who are planning to
attend the Washington Semester Program, to study abroad, to apply for the
Heinz Accelerated Masters Program, or to pursue an additional major/minor
may have a very different curriculum map and should consult early and often
with the Policy and Management Academic Advisor.

Students are encouraged to consider the Washington Semester Program
as part of their education. Suitable courses may be considered as fulfilling
requirements of concentration electives in the major. Please discuss course
selections with the Academic Advisor during the application phase to the
program.

Additional Major

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

Christina Fong, Faculty Director
Office: Porter Hall 223I
Email: P-and-M-advisor@andrew.cmu.edu

Connie Angermeier, Academic Advisor
Office: Porter Hall 208A
Email: clia2@andrew.cmu.edu

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. At most, one course may be double-counted with another major or minor.

Curriculum

Required Courses

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>73-102</td>
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<tr>
<td>88-150</td>
<td>9</td>
</tr>
<tr>
<td>88-221</td>
<td>9</td>
</tr>
</tbody>
</table>

Total Required Courses 54 units

Electives

18 units

<table>
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<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>88-223</td>
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</table>

Total Electives 18 units

The Minor in Policy and Management requires 54 units of coursework. This includes 36 units of required courses and 18 units of electives. The minor is designed to provide students with foundational knowledge in management and policy, preparing them for leadership roles in various professional settings.
Faculty
LINDA BABCOCK, James Mellon Walton Professor of Economics and Department Head – Ph.D., University of Wisconsin-Madison; Carnegie Mellon, 1988–.
SAURABH BHARGAVA, Assistant Professor of Economics – Ph.D., University of California, Berkeley; Carnegie Mellon, 2012–.
LEE BRANSTETTER, Professor of Economics – Ph.D., Harvard University; Carnegie Mellon, 2006–.
STEPHEN BROOMELL, Assistant Professor of Quantitative Psychology – Ph.D., University of Illinois at Urbana-Champaign; Carnegie Mellon, 2011–.
GRETCHEN CHAPMAN, Professor of Psychology – Ph.D., University of Pennsylvania; Carnegie Mellon, 2017–.
SIMON DEDEO, Assistant Professor of Social and Decision Sciences – Ph.D., Princeton University; Carnegie Mellon, 2017–.
JULIE DOWNS, Associate Professor of Psychology – Ph.D., Princeton University; Carnegie Mellon, 1995–.
PAUL S. FISCHBECK, Professor of Social and Decision Sciences and Engineering and Public Policy – Ph.D., Stanford University; Carnegie Mellon, 1990–.
CHRISTINA FONG, Senior Research Scientist – Ph.D., University of Massachusetts, Amherst; Carnegie Mellon, 2001–.
RUSSELL GOLMAN, Assistant Professor of Behavioral Economics and Decision Science – Ph.D., The University of Michigan; Carnegie Mellon, 2010–.
CLEOTILDE GONZALEZ, Research Professor of Information and Decision Sciences – Ph.D., Texas Tech University; Carnegie Mellon, 2000–.
KAREEM HAGGAG, Assistant Professor of Economics – Ph.D., University of Chicago; Carnegie Mellon, 2017–.
ALEX IMAS, Assistant Professor of Economics – Ph.D., University of California, San Diego; Carnegie Mellon, 2014–.
MARK S. KAMLET, University Professor of Economics and Public Policy and Provost Emeritus – Ph.D., University of California, Berkeley; Carnegie Mellon, 1978–.
GEORGE F. LOEWENSTEIN, Herbert A. Simon University Professor of Economics and Psychology – Ph.D., Yale University; Carnegie Mellon, 1990–.
JOHN H. MILLER, Professor of Economics and Social Science – Ph.D., The University of Michigan; Carnegie Mellon, 1989–.
DANIEL OPPENHEIMER, Professor of Psychology – Ph.D., Stanford University; Carnegie Mellon, 2017–.
SILVIA SACCARDO, Assistant Professor of Economics – Ph.D., University of California, San Diego; Carnegie Mellon, 2016–.

Emeriti Faculty
DAVID A. HOUNSHELL, David M. Roderick Professor of Technology and Social Change – Ph.D., University of Delaware; Carnegie Mellon, 1991–.
WILLIAM R. KEECH, Professor of Political Economy – Ph.D., University of Wisconsin-Madison; Carnegie Mellon, 1997–.

Adjunct Faculty
MARY JO MILLER, – J.D., Duquesne University; Carnegie Mellon, 1999–.

Research and Teaching Faculty
LINDA MOYA, Assistant Teaching Professor in Psychology – Ph.D., Carnegie Mellon University; Carnegie Mellon, 2016–.