#### **Social and Decision Sciences**

What programs does SDS offer?

### **Decision Science**Faculty Director: Gretchen Chapman

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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 interest.

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 communicating the risks of climate change), marketing (e.g., understanding the effects of inter-temporal choice purchasing on 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.

## Behavioral Economics, Policy, and Organizations

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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. Private and public sector organizations are increasingly relying on behavioral economics to help them improve their organizational effectiveness and profitability.

SDS's 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, government can participation in social service programs, interventions to increase patients' compliance with medication, and how businesses can reduce inequality in the workplace. Faculty bring this expertise and experience into the classroom to train students how to solve problem important to government and organizations.

Students in this major- the first and only major of its kind, and the largest selection of behavioral economics courses anywhere in the world- will be uniquely trained in the integration of Economics and Psychology and will have a solid grounding in quantitative methods. The core includes courses in economics, psychology, behavioral economics and quantitative methods. Students should consult the academic advisor for more information about the course options for the major electives. Applied projects in courses will teach students how to collect original data, design field and laboratory experiments, analyze data and develop interventions to improve economics outcomes and decisions. Students will be well equipped for a wide range of professions and graduate degree programs.

#### Policy and Management

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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 to excel in both public and private sectors. The multi-disciplinary curriculum merges frontier knowledge on both the ideals of decision making, policy, and organization, as well as the realities of organizational and individual behavior that must be confronted if high-quality outcomes are to be attained.

The major is comprised of four required core areas: The Policy Core gives students applied economic training and policy analysis experience. The Management Core focuses on real-world applications decision making. Students will develop of effective understanding negotiation strategies and tactics, and identify the barriers and the psychological factors that may prevent decision-makers from reaching agreements. The Empirical Core focuses on key methods for collecting and analyzing data 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. The Capstone course gives students hands-on experience in applying the research and analytical methods learned to a real-world problem. Finally, students will have the opportunity to tailor their interests in one of four concentration areas, which emphasize different aspects of decision making within the major (1) Analytics, (2) Policy, (3) Management, and (4) Law.

The Policy and Management major provides an excellent theoretical and practical skills for students who 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.

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The Department of Social and Decision Sciences (SDS) 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.

\* Students develop strong quantitative and analytical research skills

\* Students work together to solve/explore unstructured real-world problems and to make contributions from diverse disciplines

\* Emphasis on undergraduate research

\* Easy access to faculty

\* Departmental core that includes courses in decision analysis, empirical research, organizations, behavioral economics, and policy analysis

\* Experiential learning through the Carnegie Mellon University Washington Semester Program, study abroad, and internships

SDS 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 and 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.

For more information, please contact the academic advisor for the specific program in which you are interested.