

Heinz College of Information Systems and Public Policy

Kirsten Martin, Dean
Location: 1003 Hamburg Hall
www.heinz.cmu.edu (<http://www.heinz.cmu.edu>)

The next generation of leaders must deeply understand this critical point of intersection: People, policy, and technology. The connections between the three define our time, and will continue to shape the future of humankind.

At Heinz College, we've understood this since our founding, and we provide students with a foundation of data analytics, technology, evidence-based management, and rich experiential learning in contexts that are crucial to society, such as public policy, health care, information systems, cybersecurity, the arts, and entertainment.

Our research programs are best described as data-intensive social science. Our economists, statisticians, operations researchers, computer scientists, and management experts sit side by side, collaborating constantly and not sitting in traditional departmental silos. For this reason, they are able to approach complex societal problems in an altogether different way and impart this interdisciplinary mindset to our students.

The unique co-location of our two schools, the School of Public Policy and Management (<https://www.heinz.cmu.edu/about/public-policy-management/>) and the School of Information Systems and Management (<https://www.heinz.cmu.edu/about/information-systems-management/>), offers opportunities for collaboration that simply cannot be duplicated elsewhere. We also offer two groundbreaking Joint Degree Programs with the CMU College of Fine Arts (<https://www.heinz.cmu.edu/about/fine-arts/>).

Graduates of Heinz College are highly sought by employers across sectors for their interdisciplinary expertise and ability to use relevant data to solve complex problems. Our alumni work for government agencies at the federal, state, and local levels. They work in roles that directly impact national security. They work for tech giants, big consulting firms, major media outlets, cultural institutions, top hospitals and health systems, non-profits, and community organizations of all sizes. They work for startups—or they found their own.

Learn more about Heinz College graduate degree programs (<https://www.heinz.cmu.edu/programs/>).

Public Interest Technology

Public Interest Technology (PIT) is an emerging field unto itself, but Carnegie Mellon University has been a leader in this space for over 50 years, promoting the use of technology to advance the public interest. Continued excellence in this space is a priority for Heinz College.

Learn more about PIT at Heinz College (<https://www.heinz.cmu.edu/about/public-interest-technology/>).

Minor in Decision Analytics and Systems (DAS)

Students in any undergraduate major at Carnegie Mellon University can elect the Minor in Decision Analytics and Systems (DAS), building along the way a robust interdisciplinary toolkit that draws on computer science, economics, statistics, operations research, machine learning, and information systems. You will also learn how-to apply this toolkit to consequential societal problems!

Heinz College offers the undergraduate **Minor in Decision Analytics and Systems (DAS)**, providing you with the opportunity to add systems thinking and evidence-based problem solving to any field of study.

Data is a means to an end—creating value for people and society. But before data can create value, there comes a critical decision point. DAS prepares you to be the one who makes that decision, navigating the process from end to end: from identifying a current decision point and the problem it could solve, to determining the right decision and its potential value, and finally communicating that value and putting the decision into action.

Using Heinz College's deep expertise in analytics, public policy and information systems as a launchpad, the DAS minor features gamechanging experiential courses that ground DAS strategies in real world application, so you can see the social impacts of this work firsthand.

For more information, contact Professor Raja Sooriamurthi at raja@cmu.edu.

DAS Minor Curriculum and Coursework

DAS Core Courses:

- Introduction to DAS (94-416 Introduction to Decision Analytics and Systems)
- Simulation for DAS (94-217 Systems Thinking and Discrete Event Simulation)
- Optimization for DAS (94-433 Optimization for DAS)
- Applied Econometrics for DAS (94-431 Applied Econometrics for DAS)
- Critical Analysis of Policy Research (90-440 Critical Analysis of Policy Research)
- Machine Learning for Public Policy Lab (94-489 Machine Learning for Public Policy Lab)

Expected Pre-requisites:

- Calculus (21-111 Differential Calculus, 21-112 Integral Calculus, OR 21-256 Multivariate Analysis)
- Matrix Algebra (21-240 Matrix Algebra with Applications)
- Computer Science (15-112 Fundamentals of Programming and Computer Science AND 15-122 Principles of Imperative Computation)
- Probability and Statistics (36-225 Introduction to Probability Theory AND 36-226 Introduction to Statistical Inference)
- Principles of Microeconomics (73-102 Principles of Microeconomics)

DAS Sample Schedule

*Below is one possible schedule for the **DAS minor**. Actual schedules may vary based on course availability and other factors.*

Year Two - Fall Semester

- Introduction to DAS
- Optimization for DAS

Year Two - Spring Semester

- Simulation for DAS
- Applied Econometrics for DAS

Year Three - Fall Semester

- Critical Analysis of Policy Research

Year Three - Spring Semester

- Machine Learning for Public Policy Lab

Minor in Health Care Policy and Management

Sponsored by:

Heinz College of Information Systems and Public Policy
Dietrich College of Humanities and Social Sciences
Mellon College of Science

Faculty Advisors:

Jason D'Antonio, Mellon College of Science
James F. Jordan, H. John Heinz III College

The face of health care is changing. The practice of medicine is being fundamentally altered by the forces of change in public policy, health care organizations and in the industry as a whole. The role of individual professionals in this industry is changing as rapidly as the industry itself. Traditional career paths have disappeared overnight to be replaced by new opportunities that require new skills. New organizations are placing new demands on their professional and medical staffs. The criteria of efficiency and financial stability are entering the domains of diagnosis and treatment.

This minor is designed to provide students considering a career in the health professions with an understanding of how these changes are likely to affect

their careers. Students will become familiar with the critical policy and management issues and will begin to learn to operate effectively in the emerging health care environment. The curriculum combines economic, organizational, managerial, historical and psychological perspectives on these issues to provide a foundation for a deepened understanding of the changing structure of health care organizations and policy.

Required Courses for HCPM Minor

A total of 54 units are required to complete this minor. Entry into the minor requires completion of 73-102 Principles of Microeconomics or the equivalent by approval.

Required Courses

Complete a total of 21 units from the following:

79-330	Medicine and Society: Health, Healers, and Hospitals	9
90-436	Health Systems	6
90-472	Health Policy	6

Elective Courses

Complete a minimum of 24 units from these two sections:

Heinz College Courses

94-409	Healthcare Information Systems	12
73-328	Health Economics	12
90-832	Health Law	6
90-433	Population Health	6
90-834	Geospatial Health Analytics	12
Other courses as approved		

Humanities and Social Sciences Courses (9 units each)

80-245	Medical Ethics	9
76-494	Healthcare Communications	9
88-365	Behavioral Economics and Public Policy	9
42-444	Medical Devices	9
Other courses as approved		

Please note that some of these courses have prerequisites that will not count toward the completion of the requirements for this minor.

Elective Focus Areas

Focus areas are suggested groupings of electives based on student interest. Students *do not* need to take all electives within one focus area; they are free to choose their 18-unit elective minimum from any combination of focus areas.

Health Management/Administration Focus		Units
90-832	Health Law	6
80-245	Medical Ethics	9
76-494	Healthcare Communications	9

Health Policy Focus		Units
73-328	Health Economics	12
90-832	Health Law	6
90-433	Population Health	6
88-365/90-882	Behavioral Economics and Public Policy	9
Other courses as approved		

Health Analytics & IT Focus		Units
94-409	Healthcare Information Systems	12
90-834	Geospatial Health Analytics	12
42-444	Medical Devices	9
Other courses as approved		

Five-Year (Accelerated) Master's Programs

Students with the drive to develop as leaders and enter the job market more quickly can earn their CMU undergraduate degree **and** a professional master's degree from Heinz College together in five years instead of the typical six.

An Accelerated Master's Program (AMP) isn't just a savings of time. It's also a considerable savings in cost, and adds a tremendous level of experience and expertise in a specific industry.

In the Heinz College AMP program, students complete 3 years in a CMU undergraduate program (any major), followed by 1 year of integrated study, followed by 1 full year at Heinz College.

The following Heinz College master's degree programs offer accelerated options for CMU undergraduates:

- Master of Science in Artificial Intelligence Systems Management (AIM)
- Master of Arts Management (MAM)
- Master of Entertainment Industry (MEIM)*
- Master of Information Systems Management (MISM)
- Master of Science in Health Care Policy and Management (MSHCPM)
- Master of Science in Information Security Policy and Management (MSISPM)
- Master of Information Security Policy and Management (MSISPM)
- Master of Science in Public Policy and Management (MSPPM)*

Students must apply and be admitted to Heinz College. Learn more about Heinz College admissions requirements (<https://www.heinz.cmu.edu/admissions/>).

For more information on Accelerated Master's Programs, please contact the Heinz College Office of Admissions at hznadmit@andrew.cmu.edu or by phone 412-268-2164.

***Note on AMP planning for MEIM and MSPPM - Washington, D.C.:** Due to the rigorous format and unique academic demands of the MEIM and MSPPM - Washington D.C. programs—with their second years at CMU's Los Angeles and D.C. campuses, respectively—interested students should begin the AMP planning process as early as possible in their undergraduate career. Students must ensure that they have satisfied all requirements for their undergraduate degree, as well as their first-year master's requirements, by the end of the fourth AMP year.

Faculty and Research Centers

FACULTY

Heinz College has an international reputation for the quality of its research. Our interdisciplinary environment creates exciting opportunities for collaboration and produces a breadth of research work not typically found in schools of our size.

Our faculty and research centers consistently receive funding support from government agencies, foundations and corporate partners, like the National Science Foundation; the Heinz Endowments; the Mellon Foundation; the U.S. Departments of Defense, Commerce, Health and Human Services, and Housing and Urban Development; the Sloan Foundation; and the National Institute of Justice.

Visit our Faculty pages (<https://www.heinz.cmu.edu/faculty-research/>) to learn more about individual faculty members, accomplishments, and current research.

RESEARCH CENTERS

We host, or are closely associated with, these CMU research centers:

- Arts Management and Technology Laboratory (AMTLab) (<http://amt-lab.org/>)
- Block Center for Technology and Society (<https://www.cmu.edu/block-center/>)
- Center for Behavioral Decision Research (CBDR) (<http://cbdr.cmu.edu/>)
- Center for Economic Development (CED) (<https://www.heinz.cmu.edu/ced/>)
- CyLab (<http://www.cylab.cmu.edu/>)
- Digital Transformation and Innovation Center (<https://www.cmu.edu/risk-reg-center/>)
- iLab (<http://ilab.heinz.cmu.edu/>)
- Initiative for Digital Entertainment Analytics (IDEA) (<http://idea.heinz.cmu.edu/>)
- Living Analytics Research Centre (LARC) (<https://larc.smu.edu.sg/>)
- Metro21: Smart Cities Institute (<https://www.cmu.edu/metro21/>)
- Mobility21: USDOT National University Transportation Center (<https://mobility21.cmu.edu/>)
- Privacy Economics Experiments (PEEX) Lab (<https://peex.heinz.cmu.edu/>)
- Program for Research and Outreach on Gender Equity in Society (PROGRESS) (<https://www.cmu.edu/dietrich/progress-equity-leadership/>)
- Traffic21 (<https://traffic21.heinz.cmu.edu/>)

Faculty

LEMAN AKOGLU, Dean's Associate Professor of Information Systems – Ph.D., Computer Science, Carnegie Mellon University; Carnegie Mellon, 2012–

LINDA BABCOCK, James M. Walton Professor of Economics – Ph.D., University of Wisconsin at Madison; Carnegie Mellon, 1988–

EDWARD BARR, Associate Teaching Professor – M.S., Indiana University of Pennsylvania; Carnegie Mellon, 2000–

MARTIN BARRETT, Associate Teaching Professor – Ph.D. in Computer Science, University of Wisconsin-Madison;

DAREEN BASMA, Assistant Dean of Diversity, Inclusion, Climate & Equity (DICE) – Bachelor's degree in Psychology & Religious Studies, Master's degree in Mental Health Counseling, Ph.D. in Counselor Education & Supervision, University of Tennessee;

ELI BEN-MICHAEL, Assistant Professor – PhD in Statistics, U.C. Berkeley;

ALFRED BLUMSTEIN, J. Erik Jonsson University Professor of Urban Systems and Operations Research; Director, National Consortium on Violence Research – Ph.D., Cornell University; Carnegie Mellon, 1969–

SILVIA BORZUTSKY, Associate Teaching Professor – Ph.D., University of Pittsburgh; Carnegie Mellon, 2001–

LEE BRANSTETTER, Associate Professor of Economics – Ph.D., Harvard University; Carnegie Mellon, 2006–

JONATHAN CAULKINS, Professor of Operations Research and Public Policy; Faculty Chair, Master of Public Policy and Management Program – Ph.D., Massachusetts Institute of Technology; Carnegie Mellon, 1990–

GEORGE CHEN, Assistant Professor of Information Systems – Ph.D. in Electrical Engineering and Computer Science, MIT; Carnegie Mellon, 2015–

DAVID CHOI, Assistant Professor of Statistics and Information Systems – Ph.D. Electrical Engineering, Stanford University; Carnegie Mellon, 2004–

JACK CHOW, Distinguished Service Professor – M.D., University of California at San Francisco School of Medicine; Carnegie Mellon, 2011–

KAREN CLAY, Assistant Professor of Economics and Public Policy – Ph.D., Stanford University; Carnegie Mellon, 1997–

AVINASH COLLIS, Assistant Professor at the Heinz College of Information Systems and Public Policy – Ph.D. from the Sloan School of Management, Massachusetts Institute of Technology;

BRETT ASHLEY CRAWFORD, Associate Teaching Professor of Arts Management – Ph.D. in Theatre History and Criticism, University of Maryland;

GEORGE T. DUNCAN, Professor of Statistics, Emeritus – Ph.D., University of Minnesota; Carnegie Mellon, 2011–

MARIANA ESCALLON BARRIOS, Assistant Teaching Professor of Information Systems – Ph.D. in Industrial Engineering and Management Sciences, Northwestern University;

RACHEL DZOMBAK, Distinguished Service Professor of Design and Innovation – PhD, University of California, Berkeley;

PEDRO FERREIRA, Associate Professor of Information Systems – PhD, Engineering and Public Policy Specialization in Telecom Policy, Carnegie Mellon University; Carnegie Mellon, 2004–

REBEKAH FITZSIMMONS, Assistant Teaching Professor of Professional Communication – PhD in English, University of Florida;

ANDREW GARIN, Assistant Professor of Economics – Ph.D., Harvard University;

MARTIN GAYNOR, E.J. Barone Professor of Economics and Health Policy; Faculty Chair, Ph.D. Program – Ph.D., Northwestern University; Carnegie Mellon, 1995–

RAYID GHANI, Distinguished Career Professor – Machine Learning, Carnegie Mellon University;

WILLIAM GOGOLAK, Assistant Teaching Professor – PhD in Finance, Illinois Institute of Technology;

CHRISTOPHER GORANSON, Distinguished Service Professor – Master of Geographic Information Systems, Penn State University;

WILPEN GORR, Professor of Public Policy and Information Systems – PhD, Operations Research, Carnegie Mellon University;

COREY HARPER, Assistant Professor of Civil and Environmental Engineering – BS in Civil Engineering, MS and PhD, Morgan State University, Carnegie Mellon University;

AMELIA HAVILAND, Professor of Statistics and Health Policy – PhD, Statistics and Public Policy, Carnegie Mellon University;

KIM J. HYATT, Associate Teaching Professor

AKSHAYA JHA, Assistant Professor of Economics and Public Policy – Ph.D. in Economics, Stanford University;

MARK S. KAMLET, Provost, CMU, and H. John Heinz III Professor of Economics and Public Policy – Ph.D., University of California at Berkeley; Carnegie Mellon, 1978–

FELIX KOENIG, Assistant Professor of Economics – Ph.D. and MSc in Economics, London School of Economics;

BRIAN KOVAK, Associate Professor of Economics and Public Policy – Ph.D., Economics, University of Michigan;

DAVID KRACKHARDT, Professor of Organizations and Public Policy – Ph.D., University of California at Irvine; Carnegie Mellon, 1991–

RAMAYYA KRISHNAN, William W. and Ruth F. Cooper Professor of Management Science and Information Systems; Faculty Chair, Master of Information Systems Management Program – Ph.D., University of Texas at Austin; Carnegie Mellon, 1987–

KRISTIN KURLAND, University Professor of Architecture, Information Systems, and Public Policy – B.A., University of Pittsburgh; Carnegie Mellon, 1999–

CHRIS LABASH, Associate Professor of Communication and Innovation

LINDSAY LARSON, Assistant Professor of Organizational Behavior – PhD and MA in Media, Technology, and Society, Northwestern University; Carnegie Mellon, 2025 –

DAVID LASSMAN, Distinguished Service Professor of Organizational Management – BS, Mechanical and Aerospace Engineering, MBA, Princeton University, Harvard Business School;

GORDON LEWIS, Associate Professor of Sociology; Faculty Chair, Master of Public Management Program – Ph.D., Stanford University; Carnegie Mellon, 1969–

BEIBEI LI, Associate Professor of IT and Management – PhD in Information Systems, Stern School of Business, New York University;

ARI LIGHTMAN, Practice Professor, Digital Media and Marketing – M.B.A., Carnegie Mellon University; Carnegie Mellon, 2011–

PETER MADSEN, Senior Lecturer in Ethics and Public Policy – Ph.D., Duquesne University; Carnegie Mellon, 1988–

DAN MARTIN, Director, Master of Arts Management Program, and Associate Professor (College of Fine Arts) – M.F.A., Brooklyn College/City University of New York; Carnegie Mellon, 1993–

HAYLEE MASSARO, Assistant Teaching Professor

ANNA MAYO, Assistant Professor of Organizational Behavior – PhD in Organizational Behavior & Theory, Carnegie Mellon's Tepper School of Business;

MICHAEL MCCARTHY, Associate Teaching Professor of Information Systems Management – M.S., University of Pittsburgh; Carnegie Mellon, 1999–

SARAH MENDELSON, Distinguished Service Professor of Public Policy and Head of Heinz College in Washington, DC – PhD in Political Science, Columbia University;

JOE MERTZ, Associate Teaching Professor – Ph.D., Carnegie Mellon; Carnegie Mellon, 1994–

DANIEL NAGIN, Theresa and H. John Heinz III Professor of Public Policy, and Research Director, National Consortium on Violence Research – Ph.D., Carnegie Mellon University; Carnegie Mellon, 1979–

JOHN OSTLUND, Clinical Professor of Information Systems

REMA PADMAN, Professor of Operations Research and Information Management; Faculty Chair, Master of Science in Health Care Policy and Management Program – Ph.D., University of Texas at Austin; Carnegie Mellon, 1989–

SEAN QIAN, Henry Posner, Anne Molloy, and Robert and Christine Pietrandrea Associate Professor of Civil Engineering; Director, Mobility Data Analytics Center (MAC) – PhD, University of California Davis;

SETH RICHARDS-SHUBIK, Assistant Professor of Economics and Public Policy – Ph.D., University of Pennsylvania; Carnegie Mellon, 2011–

DAVID RIEL, Distinguished Service Professor – Ph.D. ABD in Education, West Virginia University;

STACY ROSENBERG, Associate Teaching Professor – MA in Media, Culture, and Communication, New York University;

DENISE ROUSSEAU, H. J. Heinz II Professor of Organizational Behavior (joint with Graduate School of Industrial Administration) – Ph.D., University of California at Berkeley; Carnegie Mellon, 1994–

ANANYA SEN, Assistant Professor of Information Technology and Management – Ph.D in Economics, Toulouse School of Economics;

EDSON SEVERNINI, Associate Professor of Economics and Public Policy – Ph.D., Economics, University of California at Berkeley; Carnegie Mellon, 2013–

MICHAEL SMITH, Assistant Professor of Information Technology – Ph.D., Alfred P. Sloan School of the Massachusetts Institute of Technology; Carnegie Mellon, 2000–

RAJA SOORIAMURTHI, Teaching Professor Information Systems Program, Director Decision Analytics and Systems minor

DAVID STEIER, Distinguished Service Professor – Doctor of Philosophy (PhD) in Computer Science, Carnegie Mellon University;

JILLIAN STEPHENSON, Assistant Teaching Professor; Certified Public Accountant – Bachelor of Science in Business Administration, Accounting, University of Pittsburgh;

ROBERT STRAUSS, Professor of Economics and Public Policy; Faculty Chair, Master of Science in Educational Technology Management Program – Ph.D., University of Wisconsin; Carnegie Mellon, 1979–

LAURA SYNNOTT, Associate Teaching Professor, Healthcare Policy and Management – M.S., Health Services Administration, University of Michigan; Carnegie Mellon, 2004–

JANUSZ SZCZYPULA, Associate Teaching Professor in Information Systems – Ph.D., Carnegie Mellon University; Carnegie Mellon, 2000–

JOEL TARR, Richard S. Caliguiri Professor of Urban and Environmental History and Policy – Ph.D., Northwestern University; Carnegie Mellon, 1967–

LOWELL TAYLOR, Professor of Economics and Public Policy; Associate Dean of Faculty – Ph.D., University of Michigan; Carnegie Mellon, 1990–

RAHUL TELANG, Assistant Professor of Information Systems – Ph.D., Carnegie Mellon; Carnegie Mellon, 2001–

XIAOYING TU, Assistant Teaching Professor – PhD, Information Systems and Management, Carnegie Mellon University;

HOLLY WIBERG, Assistant Professor of Operations Research and Public Policy – PhD in Operations Research, MIT;

PETER ZHANG, Assistant Professor of Operations Research – Ph.D. in Engineering Systems, Massachusetts Institute of Technology;

SHIXIANG ZHU, Assistant Professor of Data Analytics – Ph.D. in Machine Learning, Georgia Institute of Technology; Carnegie Mellon, 2022–