Historical CAPP Student Elective Choices

This document is a comprehensive compilation of electives that CAPP students have taken in the past. Please note this list is not an exhaustive list of courses that are available (course offerings and seat availability change from year to year) and is not an endorsement of these courses. Cross-listed courses are not compiled; they are listed separately under each school/division’s course code.

We encourage you to research courses and course evaluations, speak with your academic advisor, and consider what courses are best for your specific career goals.

Relevant Quick Links
- University of Chicago Academic Calendar
- Harris School of Public Policy – Detailed Academic Calendar
- Optional certificate offerings:
  - Harris certificates
  - Graduate Program in Health Administration and Policy (GPHAP)
  - Certificate Program in Urban Science & Sustainable Development
  - Certificate in Education and Society

Offerings by Department
- Computational Analysis and Public Policy (CAPP)
- Harris School of Public Policy (PPHA)
- Masters Program in Computer Science (MPCS)
- The College: Department of Computer Science (CMSC)
- Toyota Technological Institute at Chicago (TTIC)
- Economics Concentration: Master of Arts Program in the Social Sciences (ECON/ECMA)
- Crown Family School of Social Work, Policy, and Practice (SSAD)
- Booth School of Business (BUSE, BUSF, BUSW, BUSN)
- Master of Arts in Computational Social Science (MACS)
- Committee on Environment, Geography and Urbanization (GEOG/CEGU)
- Department of Sociology (SOCI)
- Department of Statistics (STAT)
- Department of Mathematics (MATH)
- Financial Mathematics (FINM)
- Master of Science in Analytics (MSCA)
- Committee on Medical Physics (MPHY)
- Public Health Sciences (PBHS)
- Committee on Clinical and Translational Science (CCTS)
- Comparative Human Development Program (CHDV)

Updated: June 2023
Computational Analysis and Public Policy (CAPP)

Note: ALL CAPP course offerings listed below are elective courses previously offered. CAPP core courses required for the degree can be found on the CAPP website.

CAPP 30239 Data Visualization for Policy Analysis
CAPP 30255 Advanced Machine Learning for Public Policy
CAPP 30300 Data Science Clinic
CAPP 30350 Security, Privacy, and Consumer Protection

Harris School of Public Policy (PPHA)

Note: ALL PPHA course offerings listed below are elective courses previous CAPP students have taken. PPHA core courses required for the degree can be found on the Harris website.

2023-2024 Course Offerings

PPHA 30300 Philosophical Foundations of Public Policy
PPHA 30520 Text Mining in Public Policy
PPHA 30525 Next Generation Data: Sources, Access
PPHA 30540 Machine Learning for Public Policy
PPHA 30560 Data Visualization
PPHA 30580 Civic Technology
PPHA 31720 The Science of Elections and Campaigns
PPHA 31730 The Strategic Uses of Survey Research in Political Campaigns
PPHA 31810 Lessons from Policies that Went Wrong
PPHA 31941 Behavioral Science and Public Policy
PPHA 32000 Finance
PPHA 32735 African Development
PPHA 32736 Economics, Politics and African Societies
PPHA 32740 Order & Violence
PPHA 32750 Hydropolitics: Water Policy and Conflict
PPHA 32810 Winning Issue Campaigns
PPHA 33230 Inequality: Theory, Methods, and Evidence
PPHA 33420 Contemporary US Intelligence
PPHA 33510 Nuclear Policy
PPHA 33520 The Social Psychology of Behavior in Organizations
PPHA 33611 Foundations of Social Entrepreneurship
PPHA 33620 Leading with Innovation
PPHA 33820 The Intersection of Cyber Threats and Human Rights OR Democracy Hacked: Cyber Threats to Modern Governments in the Digital Age
PPHA 33901 Matching Efficiency and Inequality
PPHA 34241 Household Finance: Theory and Applications
PPHA 34410 Corporate Finance
PPHA 34330 Attaining Equity in K-12: Theory and Practice
PPHA 34500 Macroeconomics for Pbpl
PPHA 34799 Race, Politics, and the Press in Chicago
PPHA 34810 Mixed Methods to Policy Research
PPHA 35240 Education in Developing Contexts
PPHA 35310 International Trade, Banking and Capital Markets
PPHA 35550 Economic Development and Policy
PPHA 35561 The Practicability of Running Randomized Control Trials
PPHA 35570 Conflict and Humanitarian Intervention: Blurring Humanitarian, Development, and Security Policy
PPHA 35700 Economics of Education Policy
PPHA 36101 Financial Investments for Public Policy
PPHA 36150 Environmental, Social, and Governance (ESG) and Impact Investing
PPHA 36410 Epidemiology and Population Health
PPHA 36600 Writing for Public Policy Professionals
PPHA 36620 Applied Policy Communications Lab
PPHA 36925 Utilities and Electricity Markets: Regulation in the United States
PPHA 36701 Poverty Inequality and Welfare St
PPHA 36921 Energy Economics and Policy
PPHA 36922 Energy in the Developing World
PPHA 36930 Environmental Economics: Theory and Applications
PPHA 36941 Strategic Behavior and Regulation of Firms
PPHA 37008 State Formation in Latin America
PPHA 37102 Crime Policy
PPHA 37103 Crime Prevention
PPHA 37105 Crime, Conflict, and the State
PPHA 37106 Police Reform and Police Legitimacy
PPHA 37110 Competition Policy
PPHA 37300 Health Law and Policy
PPHA 37302 Key Issues in Healthcare: An Interdisciplinary Case Studies Approach
PPHA 37411 Management Matters: Leadership, Strategy, and Getting
PPHA 37415 Exercising Leadership in the 21st Century
PPHA 37420 Fundamentals of Leadership
PPHA 37425 Leadership and Public Policy: Winning in the Endgame
PPHA 37510 The US Healthcare System
PPHA 37720 Introduction to U.S. Health Policy and Politics
PPHA 37820 Health Care Markets and Regulations
PPHA 37910 Race and Ethnic Differences in Health: Epidemiology, Behavior and Policy
PPHA 38290 Introduction to Health Economics
PPHA 38300 Health Economics and Public Policy
PPHA 38520 GIS Application in the Social Sciences
PPHA 38530 City Lab
PPHA 38550 Technology for Public Policy: Building Connected, Engaged, and Empowered Communities
PPHA 38615 Modern Political Communications
PPHA 38720 Urban Economics and Policy
PPHA 38740 Conflict: Root Causes, Consequences and Solutions
PPHA 38750 Refugees, Security and Forced Migration
PPHA 38751 Child Exploitation, Human Trafficking and the Supply Chain
PPHA 38790 Introduction to Peacebuilding
PPHA 38820 Machine Learning and Policy
PPHA 38829 Artificial Intelligence for Public Policy
PPHA 38830 The Minds Behind the Machine: Artificial Intelligence in Modern Policy
PPHA 38840 Addressing Technology's Wake: Emerging Risks and the Public Policy Imperative
PPHA 38900 Environmental Science/Policy
PPHA 39506 The Supreme Court and Public Policy
PPHA 39750 Politics and Public Policy in Latin America
PPHA 39830 Quantitative Security
PPHA 39925 Energy Policy and Human Behavior
PPHA 39930 International Climate Policy
PPHA 40010 Leadership and Modern American Politics
PPHA 40310 Poverty and Social Welfare Policy
PPHA 41021 Health Impacts of Transportation Policies
PPHA 40700 Early Childhood: Human Capital Development and Public Policy
PPHA 40101 Policy Analysis Methods/Apps
PPHA 40321 The Modern Welfare State
PPHA 41210 Physics and Technology for Future Policy Workers
PPHA 41300 Cost-Benefit Analysis
PPHA 41400 Applied Regression Analysis: Analysis of Microeconomic Data
PPHA 41420 Multilevel Regression Modeling for Public Policy
PPHA 41501 Game Theory
PPHA 41600 Survey Research Methodology
PPHA 41750 Women in the Labor Market
PPHA 41800 Survey Questionnaire Design
PPHA 42000 Applied Econometrics
PPHA 42510 Applied Financial Management
PPHA 42535 Banking Regulation and Management
PPHA 42715 Introduction to Law and Economics
PPHA 43401 Diplomacy and Defense
PPHA 44550 Weak States and International Relations
PPHA 44900 Social Experiments: Design and Generalization
PPHA 45210 Regional Innovation Strategies
PPHA 45211 Regional Innovation and Growth
PPHA 46610 Workplace and Family Policy
PPHA 46350 Economics of Regulation
PPHA 47400 Women, Development, and Politics
PPHA 47610 Intergenerational Mobility
PPHA 48403 Optimization - Conscious Econometrics
PPHA 50101/50501 Leadership in Chicago
PPHA 50400 Science Technology and Policy
PPHA 50502 Chicago Urban Leadership
PPHA 52000 Individual Reading and Research Course
PPHA 60000 Policy Lab
PPHA 60020 Policy Lab: Criminal Justice Reform
PPHA 60021 Policy Lab II: Criminal Justice Reform
PPHA 60030 Policy Lab I: Human Services Innovation

Masters Program in Computer Science (MPCS)

2023-2024 Course Offerings
MPCS 50103 Mathematics for Computer Science: Discrete Mathematics
MPCS 51031 Android Application Development
MPCS 51032 Advanced iOS Application Development
MPCS 51033 Backends for Mobile Applications
MPCS 51036 Java Programming
MPCS 51039 Mobile Software Development
MPCS 51044 C/C++ for Advanced Programmers
MPCS 51042 Python Programming
MPCS 51043 Swift Programming
MPCS 51046 Intermediate Python Programming
MPCS 51050 OO Arch: Patterns Tech Implem
MPCS 51081 Unix Systems Programming
MPCS 51083 Cloud Computing
MPCS 51087 High Performance Computing
MPCS 51100 Advanced Programming
MPCS 51200 Introduction to Software Engineering
MPCS 51205 Topics in Software Engineering
MPCS 51220 Applied Software Engineering
MPCS 51260 Human-Computer Interaction
MPCS 51230 User Interface and User Experience Design
MPCS 51240 Product Management
MPCS 51250 Entrepreneurship in Technology
MPCS 51400 Functional Programming
MPCS 51410 Object Oriented Programming
MPCS 52011 Introduction to Computer Systems
MPCS 52015 Advanced Computer Systems
MPCS 52030 Operating Systems
MPCS 52040 Distributed Systems
MPCS 52060 Parallel Programming
MPCS 52553 Web Development
MPCS 52554 Advanced Web Development
MPCS 53014 Big Data Application Architecture
MPCS 53111 Machine Learning
MPCS 54001 Networks
MPCS 55001 Algorithms
MPCS 56420 Bioinformatics for Computer Scientists
MPCS 56430 Introduction to Scientific Computing
MPCS 56511 Introduction to Computer Security
MPCS 56512 Application Security
MPCS 56600 Introduction to Blockchain
MPCS 58020 Time Series Analysis and Stochastic Processes
MPCS 53013 Big Data
MPCS 51200 Introduction to Software Engineering
MPCS 56515 Computer and Network Security
MPCS 51030 iOS Application Development

The College: Department of Computer Science (CMSC)
Course Information
CMSC 22500 Type Theory
CMSC 23200 Introduction to Computer Security
CMSC 23900 Data Visualization
CMSC 25040 Introduction to Computer Vision
CMSC 25500 Introduction to Neural Networks
CMSC 20900 Computers for Learning
CMSC 30560 Data Visualization
CMSC 30370 Inclusive Technology
CMSC 33001 Topics in Systems
CMSC 33210 Usable Security and Privacy
CMSC 33218 Surveillance Aesthetics: Provocations About Privacy and Security in the Digital Age
CMSC 33231 Topics in Human Computer Interaction
CMSC 31230 Fundamentals of Deep Learning
CMSC 33400 Mobile Computing
CMSC 35100 Natural Language Processing
CMSC 35200 Deep Learning Systems
CMSC 35400 Machine Learning
CMSC 35600 Image Processing/Computer Vision
CMSC 33750 Machine Learning & Cancer
CMSC 35300 Mathematical Foundations of Machine Learning
CMSC 35050 Computational Linguistics

Toyota Technological Institute at Chicago (TTIC)

2023-2024 Course Offerings

TTIC 31010 Algorithms
TTIC 31020 Introduction to Statistical Machine Learning OR Advanced Natural Language Processing OR Introduction to Machine Learning
TTIC 31070 Mathematical Computation IIA: Convex Optimization
TTIC 31050 Introduction to Bioinformatics & Computational Biology
TTIC 31230 Fundamentals of Deep Learning
TTIC 31210 Advanced Natural Language Processing
TTIC 31190 Natural Language Processing
TTIC 31110 Speech Technologies
TTIC 31180 Probabilistic Graphical Models
TTIC 41000 Special Topics: Spectral Techniques for Machine Learning
TTIC 31220 Unsupervised Learning and Data Analysis
TTIC 31170 Planning, Learning, and Estimation for Robotics
Economics Concentration: Master of Arts Program in the Social Sciences
(ECON/ECMA)

List of Courses
ECMA 31320 Applications of Econometric and Data Science Methods
ECMA 31340 Big Data Tools in Economics
ECMA 33220 Introduction to Advanced Macroeconomic Analysis
ECMA 33230 Macroeconomic Crises
ECON 28620 Crony Capitalism
ECON 33230/34930 Inequality: Theory, Methods and Evidence
ECON 34901 Social Interactions and Inequality
ECON 35550 The Practicalities of Running Randomized Control Trials
ECON 41120 Topics in Behavioral Economics
ECON 41200 A Course in Experimental Economics

Crown Family School of Social Work, Policy, and Practice (SSAD)
List of Courses and 2023-2024 Course Offerings
SSAD 40550 Food Insecurity and Food Policy in the U.S.
SSAD 41500 The Practice of Group Work
SSAD 47452 Smart Decarceration: A Grand Challenge for Social Work
SSAD 48112 Community Organizing
SSAD 48500 Data for Policy Analysis/Management
SSAD 62100 Creating New Anchors: An Introduction to Prison Industrial Complex Abolition
SSAD 63200 Crime Prevention
SSAD 63412 Cultural Studies in Education
SSAD 65600 Special Issues in Healthcare MGT: Health Systems

Booth School of Business (BUSE, BUSF, BUSW, BUSN)
Course Search
BUSN 30000 Financial Accounting
BUSN 30121 Accounting for Entrepreneurship: From Start Up to IPO
BUSN 32200 Artificial Intelligence
BUSN 32901 Applications of Machine Learning to the Empirical Sciences
BUSN 33040 Macroeconomics
BUSN 33222 Sports Analytics
BUSN 33401 Money and Banking
BUSN 33402 Understanding Central Banks
BUSN 33502 International Financial Policy
BUSN 33520 The Wealth of Nations
BUSN 34104 Special Topics in Entrepreneurship: Developing a New Venture (New Venture Challenge)
BUSN 34115 New Social Ventures
BUSN 34715 Hacking for Defense
BUSN 34500 Macroeconomics for Public Policy
BUSN 34502 Intro to Venture Capital: A Toolkit for Analyzing and Financing
BUSF 35000 Investments
BUSN 35200 Corporation Finance
BUSN 36106 Managerial Decision Modeling
BUSN 37000 Marketing Strategy
BUSN 37105 Data Science for Marketing Decision Making
BUSN 37304 Digital and Algorithmic Marketing
BUSF 38002 Managerial Decision Making
BUSN 38103 Strategies and Processes of Negotiation
BUSE 38116 Leading and Managing Teams
BUSN 39001 Strategy and Structure: Markets and Organizations
BUSN 40000 Operations Management: Business Process Fundamentals
BUSN 40721 Healthcare Analytics Lab
BUSN 41000 Business Statistics
BUSN 41203 Financial Econometrics
BUSN 42001 Competitive Strategy
BUSN 41201 Big Data
BUSN 41202 Analysis of Financial Time Series
BUSN 41916 Bayes, AI and Deep Learning
BUSN 42118 Business Applications of Natural Language Processing
BUSN 42706 Entrepreneurship: Urban Opportunities and Solutions I
BUSN 42707 Entrepreneurship: Urban Opportunities and Solutions II
BUSN 43000 Contract Law
BUSN 53013 Big Data
BUSN 53014 Big Data Application Architecture

Master of Arts in Computational Social Science (MACS)

List of Courses
MACS 30123 Large Scale Computing for the Social Sciences
MACS 30500 Computing for the Social Sciences
MACS 31300 AI Applications in the Social Sciences
MACS 40101 Social Network Analysis
MACS 40200 Structural Estimation
MACS 40400 Computation and the Identification of Cultural Patterns
MACS 40500 Computational Methods for American Politics
MACS 40800 Unsupervised Machine Learning
MACS 50000 Computational Social Science Workshop
MACS 45000 Introduction to Spatial Data Science
MACS 60000 Computational Content Analysis
Committee on Environment, Geography and Urbanization (GEOG/CEGU)

2023-2024 Course Offerings
GEOG 30500 Introduction to Spatial Data Science
GEOG 30519 Spatial Cluster Analysis
GEOG 34600 Introduction to Urban Sciences
GEOG 35900 Introduction to Location Analysis
GEOG 38402 Geographic Information Science II
GEOG 38602 Geographic Information Science III
GEOG 38702 Introduction to GIS and Spatial Analysis
GEOG 39650 Environmental Data Science Practicum I
GEOG 40217 Spatial Regression Analysis

Department of Sociology (SOCI)

2023-2024 Tentative Course Offerings
SOCI 30253 Introduction to Spatial Data Science
SOCI 40133 Computational Content Analysis
SOCI 40217 Spatial Regression Analysis
SOCI 40253 Urban Science and Sustainable Development
SOCI 60013 Workshop on Education

Department of Statistics (STAT)

Course Information
STAT 24400 Statistical Theory and Methods I
STAT 28000 Optimization
STAT 30850 Multiple Testing, Modern Influence and Replicability
STAT 31700 Introduction to Probability Models
STAT 31900 Introduction to Causal Inference
STAT 32940 Multivariate Data Analysis via Matrix Decompositions
STAT 33100 Sample Surveys
STAT 34300 Applied Linear Stat Methods
STAT 34700 Generalized Linear Models
STAT 34800 Modern Methods in Applied Statistics
STAT 35920 Applied Bayesian Modeling and Inference
STAT 37601 Machine Learning and Large-Scale Data Analysis
STAT 37710 Machine Learning

Department of Mathematics (MATH)

2023-2024 Course Offerings
MATH 20400 Analysis in Rn II
MATH 60000 Computational Content Analysis

**Financial Mathematics (FINM)**

*List of Courses*
FINM 32600 Computing for Finance in C++
FINM 32700 Advanced Computing for Finance
FINM 33150 Regression Analysis and Quantitative Trading Strategies
FINM 33160 Machine Learning in Finance
FINM 33165 Probabilistic Programming and Deep Learning
FINM 33170 Financial Statistics: Time Series
FINM 33180 Multivariate Data Analysis via Matrix Decomposition
FINM 34510 Introduction to Stochastic Calculus
FINM 35910 Applied Algorithmic Trading
FINM 37301 Foreign Exchange: Markets, Pricing and Products
FINM 37602 Mathematical Market Microstructure w/o Rationality

**Master in Applied Data Science (ADSP)**

*2023-2024 Course Offerings*
ADSP 31006 Time Series Analysis and Forecasting
ADSP 32018 Natural Language Processing and Cognitive Computing

**Committee on Medical Physics (MPHY)**

*General Courses Offered (Varied)*
MPHY 39600 Image Processing/Computer Vision

**Public Health Sciences (PBHS)**

*HYPERLINK "https://pbhs.uchicago.edu/page/core-course-descriptions" List of Courses*
PBHS 32400 Applied Regression Analysis
PBHS 30910 Epidemiology and Population Health
PBHS 38300 Health Economics and Public Policy

**Committee on Clinical and Translational Science (CCTS)**

*List of Courses*
CCTS 20500 Machine Learning & Advanced Analytics for Biomedicine

**Comparative Human Development Program (CHDV)**

*List of Courses*
CHDV 30510 Computational Content Analysis

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The Law School (LAW)

Curriculum and Course Search
LAWS 43260 Election Law
LAWS 43282 Energy Law
LAWS 48401 International Trade Law
LAWS 53201 Corporate Criminal Prosecutions and Investigations
LAWS 53221 Current Issues in Criminal and National Security Law
LAWS 51704 Critical Legal Studies vs. Law and Economics

Center for the Study of Gender and Sexuality (GNSE)

2023-2024 Course Offerings
GNSE 42912 Work and Family Policy: Policy Considerations for Family Support

Committee on Education: Education and Society (EDSO)

List of Courses
EDSO 33009 Research Practice Partnerships in Education

Committee on Conceptual and Historical Studies of Science (CHSS)

2023-2024 Course Offerings
CHSS 35415 History of Information

Department of Visual Arts (ARTV)

List of Courses
ARTV 32501 Art & Machine Intelligence

Department of Art History (ARTH)

2023-2024 Course Offerings
ARTH 38606 Early Twentieth Century Urban Visions

Department of English Language and Literature (ENGL)

List of Courses
ENGL 33000 Academic and Professional Writing

Program in Creative Writing (CRWR)

2023-2024 Course Offerings
CRWR 30406 Beginning Nonfiction Workshop

Department of Political Science (PLSC)

2023-2024 Course Offerings
PLSC 36100 Civil War
PLSC 57200 Network Analysis

Department of Philosophy (PHIL)

[HYPERLINK "https://philosophy.uchicago.edu/courses" 2023-2024 Course Offerings]

PHIL 57201 Spinoza’s Psychological Politics

Digital Studies of Language, Culture and History (DIGS)

[2023-2024 Course Offerings]

DIGS 30006 Natural Language Processing

Department of History (HIST)

[2023-2024 Course Offerings]

HIST 49302 Colloquium: History of Political Corruption

Pozen Family Center for Human Rights (HMRT)

[2023-2024 Course Offerings]

HMRT 37700 International Human Rights

Social Sciences Division (SOSC)

SOSC 36031 Survey Data Analysis

Department of Ecology & Evolution (ECEV)

[List of Courses]

ECEV 42800 Population Ecology

Department of Cinema and Media Studies (CMST)

[2023-2024 Course Offerings]

CMST 38006 Minimalist Experiment in Film & Video