Urban Analytics Concentration
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Fall 2017 – Spring 2018
The Urban Analytics concentration introduces students to describing, analyzing and prescribing solutions to urban planning problems using spatial data and analysis methods. An increasing share of urban planning work today addresses spatial interactions between numerous geographically bound actors and processes that are too complex to visualize and analyze without computational tools. Geographic Information Systems, spatial statistics and algorithmic approaches to spatial data analysis are used in public and private planning practices at the local, regional and international scales to describe urban challenges, to evaluate the impacts of alternative solutions and to visualize complex information.

A range of urban and spatial analytics courses are available at the GSD and other Harvard schools, especially the Engineering School, FAS, the School of Public Health, Kennedy School and the Graduate School of Education. Students can also enlist in courses at MIT. The Harvard Center for Geographic Analysis offers data and software support as well as focused seminars and conferences relevant to the concentration topic.

Please note that course offerings often change, and new courses may be offered while these recommended courses may not be offered each year. This memo is subject to change depending on the availability of courses. Other courses may be approved with the permission of the Concentration Advisor.

Recommended basic courses:
The following courses are recommended to those interested in the concentration. They are introductory level courses that give a good overview of the topics and subject matter covered in more depth by other courses in the concentration:

GSD 6354: Advanced Spatial Analysis          Sevtsuk
GSD 6322: Mapping: Geographic Representation and Speculation Pietrusko

Approved courses include:

Fall
At the Graduate School of Design:
GSD 6349: Mapping II: Geosimulation Pietrusko
GSD 3356: Field Methods and Living Collections Elkin

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At the Kennedy School of Government:
HKS API 206: Fundamentals of Program and Policy Evaluation  
Matuszeski
HKS DPI 662: Digital Government  
Eaves
HKS MLD 620M: Urban Innovation  
Goldsmith

At the Faculty of Arts and Science:
FAS APCOMP 209A: Data Science 1: Introduction  
Various
FAS GOV 1008: Intro to GIS  
Strohschein
FAS SOCIOL 313: Urban Data Lab  
Sampson, Small
FAS COMPSCI 50: Intro to Computer Science I  
Malan

At the Graduate School of Education:
Introduction to Educational Research  
Tivnan

At the Chan School of Public Health:
SPH SBS 245: Social and Behavioral Research Methods  
Gortmaker, Kenney
SPH SBS 288: Qualitative Research Methods in Public Health  
Goldman

At Harvard Law School:
HLS 2813: City Use of Technology  
Crawford

At MIT (Massachusetts Institute of Technology):
MIT 11.205: Introduction to Spatial Analysis  
Williams
MIT 11.520: Workshop on GIS  
Williams
MIT 11.544: Transportation Systems Analysis: Performance and Optimization  
Osorio
MIT 11.407: Economic Development Tools and Techniques  
Glasmeier

Spring
At the Graduate School of Design:
GSD 2314: Responsive Environments: CITY eMOTION  
Sayegh
GSD 3353: Advanced Seminar in City Form  
Sevtsuk
GSD 5365: Towns and Settlements in Metropolitan Regions  
Rowe
GSD 6322: Mapping: Geographic Representation and Speculation  
Pietrusko

At the Kennedy School of Government:
HKS MLD 621: Innovation Field Lab: Public Problem Solving in Massachusetts Cities  
de Jong
HKS DPI 676: Designing Government  
Chisnell
HKS DPI 663: Tech and Innovation in Government*  
Sinai
*Requires Permission of Instructor

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At the Graduate School of Education:
EDU S030: Intermediate Statistics  Kim
EDU S052: Applied Data Analysis  Ho

At the Faculty of Arts and Science:
FAS APCOMP 209B: Data Science 2: Advanced Topics in Data Science  Glickman
FAS GOV 1009: Advanced Geographical Information Systems  Kelly

At the Chan School of Public Health:
SPH GHP 534: Introduction to Spatial Methods for Public Health  Castro

At MIT (Massachusetts Institute of Technology):
MIT 11.205: Introduction to Spatial Analysis  Ferreira
MIT 11.521: Spatial Database Management and Advanced GIS  Ferreira

Not Currently Offered
GSD 6354: Advanced Spatial Analysis  Sevtsuk
HKS DPI 616: Public Opinion  Norris
MIT 11.S943: Big Data, Visualization and Society  Williams
MIT 11.320: Digital City Design Workshop  Riatti

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