

# Spatial Analysis

MSA

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## Spatial Analysis

The unique MSA degree is awarded through an academically rigorous yet professionally oriented graduate program. In project-based courses, a practicum placement, and a major research paper or thesis, students learn to think geographically and master Geographic Information Systems (GIS) to support operational and strategic decision-making in government and industry.

Spatial analysts work in business, environmental consulting, crime analysis, social policy, telecommunications, epidemiology and resource management. For example, they delineate market areas, estimate sales potentials, recommend facility locations or conduct environmental assessments. With the effective use of maps, location analysis and site suitability assessments, our graduates are shaping the economic and social well-being of cities, the settlement and conservation policies of regions, and the health and connectivity of people across the globe.

### Research Areas

Faculty and student research span a mind-blowing range of topics across the three fields of study:

- Business/commercial applications
- Physical/environmental geography and landscape analysis
- Social and community information analysis

Recent student research topics range from socio-economic analysis of Toronto neighbourhoods to ice cover in the high Arctic; offender journey to crime and risk terrain to spatio-temporal analysis of regional and super-regional shopping centres across Canada; impact assessment of proposed school and library closures to trade area delineation techniques for cinema patronage; urban heat island to immigrant health patterns and the geography of aging.

Common to our research is the geographic perspective and the use of spatial analysis methods and tools. Student research is often quantitative but includes qualitative and mixed-methods research. We employ commercial and open-source GIS packages, web map services, remote sensing software, statistical and business intelligence tools, as well as custom scripts, office software, and paper-and-pencil approaches.

### Admissions Information

#### MSA

- Completion of a four-year undergraduate degree in geography or a related discipline
- Completion of GIS and applied statistics or quantitative methods courses during undergraduate degree or continuing education
- Minimum grade point average (GPA) or equivalent of 3.00/4.33 (B) in the last two years of study
- Statement of research interest including proposed supervisor
- CV including education details, work experience and technical skills
- Minimum of two letters of recommendation

### Resources

MSA courses and student research are supported by over 25 faculty members with expertise across all areas of geography and allied disciplines. A dedicated computer lab is located within the Department's office space. Some of the named research centres and groups affiliated with the MSA include:

- Centre for the Study of Commercial Activity (CSCA)
- Laboratory for Geocomputation
- Geographic Information Science and Systems Group
- Ryerson Centre for Immigration and Settlement (RCIS)
- Urban Forest Research and Ecological Disturbance (UFRED) Group
- Polar Regions Spatial and Environmental Analysis Laboratory (POLAR SEAL)

### At a Glance

**1/3** **> \$12K**

of MSA students  
select each of the  
three fields of study

average funding for full-time  
MSA students

**95%** **> 250**

of full-time MSA students  
complete the program in  
12 months

MSA graduates in the  
workforce as of fall 2014



**“The advanced data management and analysis skills I am learning in the MSA program have already been extremely valuable in my placement with a public health agency. These skills are transferable to a wide variety of applications, thus opening a world of career opportunities to MSA graduates.”**

**– Jessica Miki, MSA student**

### **Program Contact**

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