GEOG 591 Urban GIS
Instructor: Jun Liang, Ph.D.
Email: liangj@email.unc.edu   **Phone**: (919)962-3872
Time: TR 2:00-3:15PM   **Location**: CH 322
Office: 218 Carolina Hall

Prerequisite: GEO370, or similar course, or experiences with GIS software. Students will use ArcGIS 10.x to finish most labs.

Course Descriptions:
GEOG591 is an *intermediate GIS course*. Assume students already have 1+ year experiences with GIS applications, such as ArcGIS, Grass (open source), or other GIS software.

This course introduces the theories and applications of Geographic Information Systems (GIS) and teaches hands-on skills using GIS technology, with emphasis on problems in urban/economic geography. Major topics will cover topological data structure, data collection, spatial analysis, and various urban GIS applications. Another important goal of the course is to **expose students to various approaches of integrating spatial models with GIS**.

Major urban/economic theories/models covered in this course include: Urban mapping, rank mobility index, urban expansion, population density, central place theory, markov chains, gravity model, etc.

GIS concepts/skills covered in this course: spatial data queries, mapping, geo-referencing, buffering, relational database operations, spatial statistical tools, geo-coding, address matching, network analysis, etc.