Graduate Certificate in Geographic Information Science and Technology (GIST)

Overview
The Graduate Certificate in Geographic Information Science and Technology (GIST) provides an academic structure for an interdisciplinary exchange of ideas around geospatial information and analysis. Geographic information science and technology, along with geostatistics and analysis of satellite imagery, have emerged as major cross-disciplinary tools used in academic research, industrial applications, and public policy analysis.

The GIST enables specialized, multidisciplinary training and research opportunities in various emerging areas of geospatial information science and technology. Certificate students will not only participate in a cutting-edge program and receive explicit recognition of specialization in GIST by virtue of the Graduate Certificate but will be well positioned to compete for the most desirable jobs in geospatial technology, both in academia and in industry.

The program is hosted by the Department of City and Regional Planning and governed jointly by the deans of the College of Environmental Design, College of Natural Resources, and College of Letters and Science, Division of Social Science.

Eligibility
Applicants must be registered and enrolled in a Berkeley graduate degree program during the academic year. All applicants in good academic standing (e.g., GPA of 3.0 or better) are eligible to apply.

Application Process
The GIST Application for Admission and other supporting documents are submitted to Kathleen Pera, the Graduate Student Affairs Officer in the Department of City and Regional Planning, kpera@berkeley.edu, no later than one month prior to the end of the semester. No applications will be accepted in the last semester of study. Admission does not necessarily guarantee a seat in GIST eligible classes.

Certificate Requirements
Students who wish to earn the GIST must submit the Completion of Certificate Requirements Form and provide other supporting documents to Kathleen Pera, the Graduate Student Affairs Officer in the Department of City and Regional Planning, kpera@berkeley.edu. The deadline for this form is no later than one month prior to the last day of the fall or spring semester. No applications will be accepted in the last semester of study.

Below are the GIST Certificate Requirements in detail.

1) Coursework
Graduate students are required to take at least three courses, or a total of 90 hours of instruction, and earn a minimum grade of B. Students will select courses from the list below; two of the three courses should be taken outside of their home department.

GIST Approved Courses
Below is the list of currently approved courses for the GIST.

Students who have questions regarding courses (i.e. wish to petition to add or substitute a course) must email Kathleen Pera, kpera@berkeley.edu, before submitting their Completion of Certificate Requirements Form. A faculty program committee reviews the petitions.

Geographic Information Systems
- ESPM 233 – Geographic Information Systems for Environmental Science and Management
- GEOG 282 – Advanced Remote Sensing of Natural Resources
- CY PLAN 204C – Introduction to GIS and City Planning
• CY PLAN 255 – Urban Planning Applications of Geographic Information Systems
• PB HLTH 272A – Geographic Information Science for Public and Environmental Health

Remote Sensing
• ESPM 271 – Advanced Remote Sensing of Natural Resources
• ESPM 290 – Special Topics in Environmental Science, Policy and Management: Applications in Remote Sensing

Spatial Analysis & Geo Statistics
• ESPM 210 – Spatial Data Analysis
• LD ARCH 221 – Quantitative Methods in Environmental Planning
• PB HLTH 252 – Epidemiological Analysis

2) The Graduate GIST Roundtable
Graduate students are also required to take a 2-unit Graduate GIST Roundtable for two semesters. This Roundtable will serve as an integrative mechanism to synthesize understanding gained from coursework, promote cross-disciplinary discussion of GIST research and applications, encourage collaborative practice, and create a GIS community on campus. Speakers would include faculty and advanced graduate students presenting their work, as well as regular visiting researchers from other institutions. The Graduate GIST Roundtable would be hosted alternately by the CNR’s Geospatial Innovation Facility (GIF), the Center for Global Metropolitan Studies (based in The College of Environmental Design /Institute of Urban & Regional Development), and the Department of Geography. Please contact Kathleen Pera, kpera@berkeley.edu, for more information.

3) Optional Workshops
Graduate students are encouraged to take at least two Geographic Innovation Facility workshops from the list provided in Appendix C.