**GIS&T Minor**

**Geospatial Information Systems & Technologies**

The GIS&T Minor provides students with cutting-edge technical knowledge and skills using state-of-the-art information technology, such as geographical information systems (GIS), satellite imagery and global positioning systems (GPS), which are in high demand in business, government, and research. Upon completion of the minor, students are well-positioned to enter the workforce or to pursue advanced degrees in geography or allied fields.

**Lower Division Requirement**: 2 courses (10 units)

1) Geography 7  Introduction to GIS  
2) Statistics 12  Statistical Methods for Geography Majors

**Upper Division Requirements**: 6 courses (24 units minimum)

**3 mandatory courses:**

- Geography 167  Cartography  
- Geography 168  Intermediate GIS  
- Geography 169  Satellite Remote Sensing and Imaging GIS

**3 additional courses from the following list:**

- Geography 154  Images of Earth: World from Above  
- Geography 162  Glacier Environments of California’s High Sierra  
- Geography 163  Field Analysis in Biogeography  
- Geography 166  Environmental Modeling  
- Geography 170  Advanced GIS  
- Geography M171  Introduction to Spatial Statistics  
- Geography 172  Remote Sensing: Digital Image Processing & Analysis  
- Geography 173  GIS Programming & Development  
- Geography 174  Advanced Remote Sensing  
- Geography 177  Field Methods in Physical Geography  
- Geography 199*  Independent Research in Geography (approval required)

- Effective Fall 2013, to declare the GIS&T Minor, students must complete Geog 7 with a grade of B or better.  
- All courses must be taken for a letter grade with a minimum GPA of 2.0 in the Minor.  
- Each upper division course must be completed with a C or better.  
- One Geography 199* (Independent Research) may apply towards the Minor with approval. Must be taken as a 4-unit, letter-graded course.
- At least 20 upper and lower division units applied toward this Minor must only count towards this Minor and may not overlap with any other major or minor.
- No more than 2 upper division courses may overlap between the student's major and this Minor.