DEPARTMENT OF
GEOGRAPHY AND PLANNING

GPHY 845 – Geospatial Data Collection and Visualization

Course Instructors	Dr. Robert Way	Email: robert.way@queensu.ca
Contact Time	Weekly 3-hour blended lectures-practicums	
Format	Lectures, in-class activities, and assignments	
Class Assessment	Quizzes 3 X 10% each Assignment #1 1 X 10% each Assignment #2 1 X 25% each ESRI Certificates 2 X 5% each In-class participation 1 X 15% each Attendance 1 X 10% each No Final Exam	

COURSE OVERVIEW
This course examines technologies and methods for the collection and visualization of geospatial field data. Students will gain practical skills collecting and processing geospatial data from (for example) GNSS/GPS systems, Total Station Surveying, Drone surveys, Photogrammetry, LiDAR, and deformation monitoring. Students will learn the fundamentals of field data visualization and use of Remote Sensing resources to support fieldwork. Field trip fee possible: Up to $100.

LEARNING OUTCOMES
- Apply GNSS technologies for field surveying and import geospatial data back into GIS platforms
- Evaluate the strengths and limitations of different GNSS, GIS, and Remote Sensing technologies
- and tools for field and research applications
- Find, access, organize, and integrate GIS and Remote Sensing resources that support field studies
- Create publication-quality maps integrating multiple forms of geospatial data for use in research

COURSE TOPICS
- GIS systems and software
- Principles of mapping
- Terrain analysis
- GNSS systems
- Uncrewed aerial vehicles

COURSE READINGS
There is no required textbook for this class. However, multiple readings in the form of blogs, book chapters, news articles, and/or peer reviewed journal articles will be assigned each week.