

<b>Course Instructors</b>	<b>George Bevan</b>	
<b>Offices</b>	Mac-Corry D130	<b>Office Hours: TBA</b>
<b>Contact Time</b>	Wednesday 6-9pm, Mac-Corry E223	
<b>Format</b>	3-hour lab/seminar period in the departmental GIS lab (Mac-Corry E223)	
<b>Class Assessment</b>	Lab participation (10%), Short mid-term lab presentation (10%), Short mid-term lab report (10%), Final Presentation (25%), Final Report (45%)	

### COURSE OVERVIEW

This course will provide an intensive introduction to modern digital photogrammetry software and applications. Particular attention will be paid to the processing, and interpretation, of scanned aerial photos. The research questions addressed by the projects in this course will all consider how we can take historic imagery and derive meaningful results in Geography and related disciplines. Also covered will be modern large-format digital, airborne sensors and small format sensors carried by Remotely Piloted Autonomous Systems, i.e., “drones”. Declassified reconnaissance satellite imagery will also be touched on. No background in photogrammetry is expected, although some prior experience with the fundamentals of Remote Sensing is helpful.

### LEARNING OUTCOMES

- To identify the basic features of scanned aerial film and calibration certificates
- To interpret photogrammetrically processed aerial imagery in stereo
- To vectorize features in aerial photos using stereoplotting
- To report the results of photogrammetric processing

### COURSE TOPICS

- Principles of airphoto interpretation
- Stereo Viewing/Stereoplotting
- Principles of photography
- Exterior and interior orientation
- Absolute orientation using GCPs and air-stations (Direct Georeferencing)
- Photogrammetric principles and the method of Least Squares
- Reading calibration certifications
- Fiducial marks
- Film scanning
- Large-format aerial digital sensors
- Remotely Piloted Autonomous Systems (RPAS)
- Declassified reconnaissance satellite imagery

### COURSE READINGS

Wolf, P. R., Dewitt, B., & Wilkinson, B. (2014). Elements of Photogrammetry with Applications in GIS. McGraw and Hill education. [Available online through the Queen's library.](#)