



Mapping with Drones Field School:

May 2 – 11, 2022

Mandatory Lake Cowichan field camp component from May 6 – 8

University of Victoria Department of Geography

General Information

Drones provide field scientists a rapid platform to acquire multi-view imagery to create high resolution 3D maps. This course introduces students to flight planning, ground validation survey using RTK-GNSS, Structure from Motion (SfM) processing, and geospatial analysis. Common datasets derived from SfM processing include high resolution orthomosaics, DEMs and 3D point clouds. SfM outputs are useful for analyses and applications including but not limited to forest mensuration, environmental monitoring, change detection, and geomorphic surveys.

Students will take part in field and lab exercises exposing them to various sensors, platforms, and field equipment necessary for a photogrammetric SfM survey.

During the field camp portion of the course taking part at Cowichan Lake, a final group project will provide students an opportunity to take part in planning, acquiring, and analyzing drone imagery for their selected field site.

Eligibility

We expect many more applicants than the 12 positions available. Accordingly, we list the following eligibility information:

- Students must have second-year standing, and have completed GEOG 222 and GEOG 228 (or equivalent).
- This field school consists of both classroom and outdoor field-based activities. At times this course will be physically demanding. Applicants must mention if they have any accessibility needs that may affect their ability to participate in these activities.
- Must be a UVic student. Non-Geography students are invited to apply.

Application Requirements

Please see the Application Form for all application instructions and requirements.

If you have any further questions after reading the information in this package, please email stephenr@uvic.ca.

Courses

This field school is comprised of one course worth 1.5 credits. Successful applicants will be registered in this course through special registration by the Department of Geography (*students will not register themselves*).

COURSE OVERVIEW:

Geography 391 – Topics in Geography: Mapping with Drones

Instructor: Roger Stephen

May 2-11, 2022, with a mandatory field component (May 6-8)

This course provides an introduction to using drones and surveying equipment to plan and perform data collection for creating digital 3D mapping outputs. Topics include a review of photogrammetry, site selection, the Canadian drone regulatory process, mission planning, structure-from-motion (SfM) data processing, RTK ground control survey, accuracy assessment, and spatial analysis of acquired datasets. *You must be available on campus for the start of the class on May 2nd, 2022, at 8:30 am. In addition, you must be available for travel from campus to the field location on May 6th, with return back to campus on May 8th.*

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Tentative Itinerary

This itinerary should be taken as tentative and is subject to change:

	Monday May 2	Tuesday May 3	Wednesday May 4	Thursday May 5	Friday May 6	Saturday May 7	Sunday May 8
	<i>Classroom</i>				<i>Travel / Field</i>	<i>Field</i>	<i>Field / Travel</i>
8:30	Lecture	Lecture	Lecture	Lecture	Leave UVic @8:30 Travel to Cowichan Lake Field Site	Cowichan Lake Field Site	Cowichan Lake Field Site
9:30							
10:30							
11:30	<i>Lunch Break</i>	<i>Lunch Break</i>	<i>Lunch Break</i>	<i>Lunch Break</i>	<i>Lunch Break</i>	<i>Lunch Break</i>	<i>Lunch Break</i>
12:30	Field Work	Field Work	Field Work	Field Work	Cowichan Lake Field Projects	Cowichan Lake Field Projects	Return to UVic from Cowichan Lake
1:30							
2:30							
3:30							
4:30							
4:30	Lab	Lab	Lab	Lab			
5:30							
6:30					<i>Dinner / Free Time</i>	<i>Dinner / Free Time</i>	
7:30							

	Monday May 9	Tuesday May 10	Wednesday May 11
	<i>Lab</i>		
8:30	Lab	Lab	Final Project Due 11:59pm
9:30			
10:30			
11:30		<i>Lunch Break</i>	
12:30		Presentations	
1:30			
2:30			
3:30			
4:30			
5:30			
6:30			
7:30			



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Fees and Financial Support

Fees:

For field schools, students pay regular UVic tuition **plus field school fees** (see below).

Field school fees can be paid by **cheque, money order, counter cheque, or cash ONLY**. Cheques should be made payable to the University of Victoria. Payment can be dropped off in the Geography office drop box (David Turpin Building, in the hallway beside room B203), or mailed (cheque only). **DO NOT MAIL CASH**. If you leave a deposit in the drop box, please send an email to geoginfo@uvic.ca to let us know.

Field school fees:

- **\$100 deposit** paid at time of application, plus:
- **\$300** paid within one week of acceptance into the field program

Field school fees include:

- Accommodation (bunkhouse-style at Cowichan Lake Education Centre) from May 6 – 8, 2022
- Prepared meals (dinner, May 6 – lunch, May 8)
- Transport to & from field site

Field school fees do not include:

- Tuition
- Breakfast and lunch on Friday, May 6 (Please pack a lunch; however, we will stop briefly in Lake Cowichan for last minute food)
- Other expenses such as any personal gear (sleeping bags, day packs, etc.) required/recommended for the course (equipment list provided upon acceptance into the field program)

Financial Support:

This field school has been directly subsidized by the Faculty of Social Sciences Field School Support Fund. No application is necessary to receive this support, as it has already been built into the field school fees.